

Footprints on the Land:

**An Assessment of
Demographic Trends
and the Future of
Natural Resources
in the United States**

**By
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Christine Overdevest,
Principal Authors**

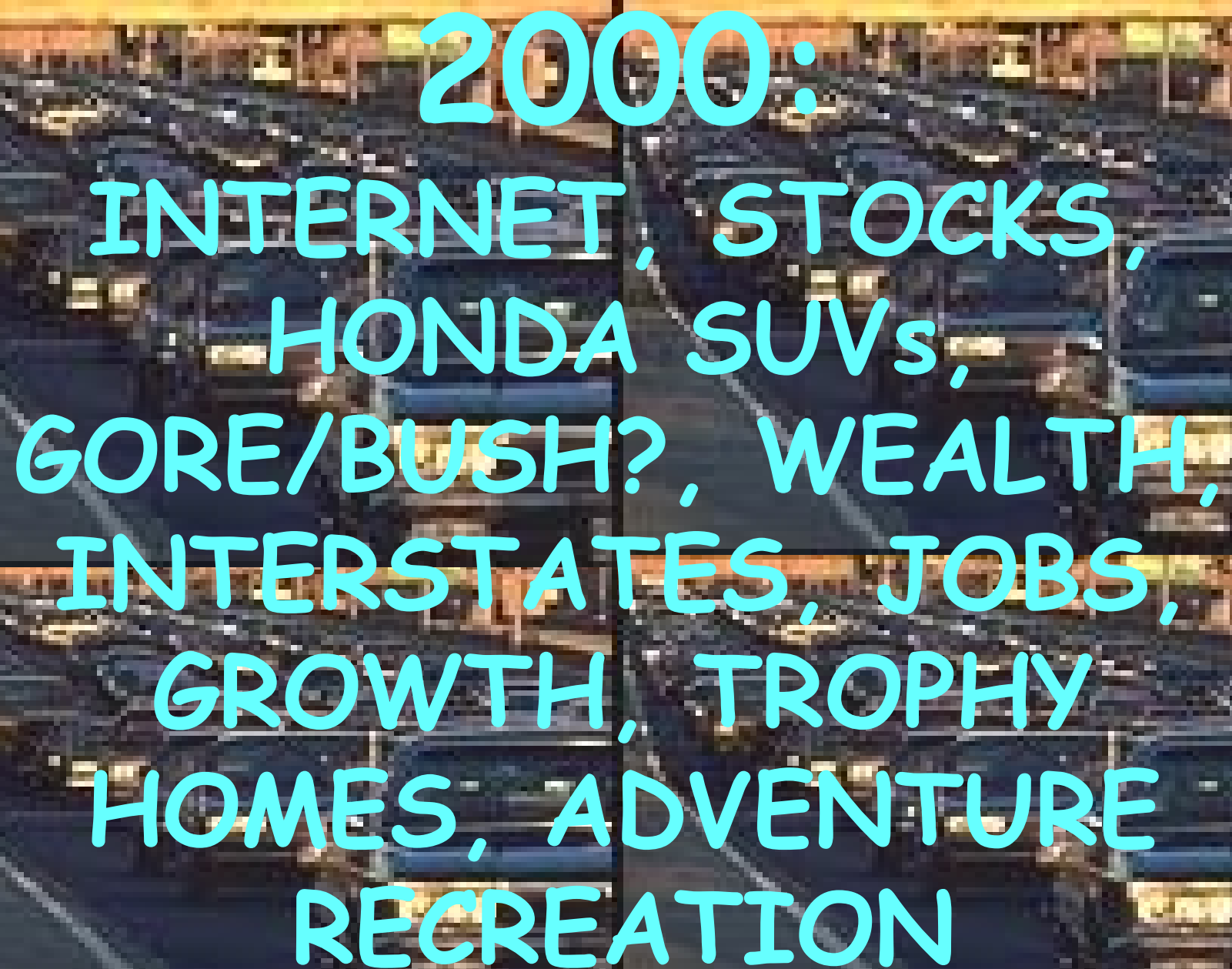


The book upon
which this
presentation is
based is an
examination of
the population,
demographic,
urban, rural,
economic, leisure
and recreation
trends of the
United States.

A Changing America



1960:
Flower Children,
VW Camper Vans,
Elvis, Ed Sullivan,
Vietnam, Kennedy,
Cuban Missile Crisis,
Family Vacations,
Chevy Impala V8

An aerial photograph of a large stadium at night, filled with spectators. The stadium is illuminated by bright lights, and the crowd is visible as a dense sea of people. The text is overlaid on the image in a large, bold, cyan font.

2000:
INTERNET, STOCKS,
HONDA SUVs,
GORE/BUSH?, WEALTH,
INTERSTATES, JOBS,
GROWTH, TROPHY
HOMES, ADVENTURE
RECREATION



2002:
RECESSION, TALIBAN,
ENRON, TECH STOCK
BUST, SUVs,
TERRORISM, WAR,
OLYMPICS, LAYOFFS,
GROUND ZERO, SPEND
AND BE PATRIOTIC

CHANGE IS A CERTAINTY

ABOUT THIS PRESENTATION:

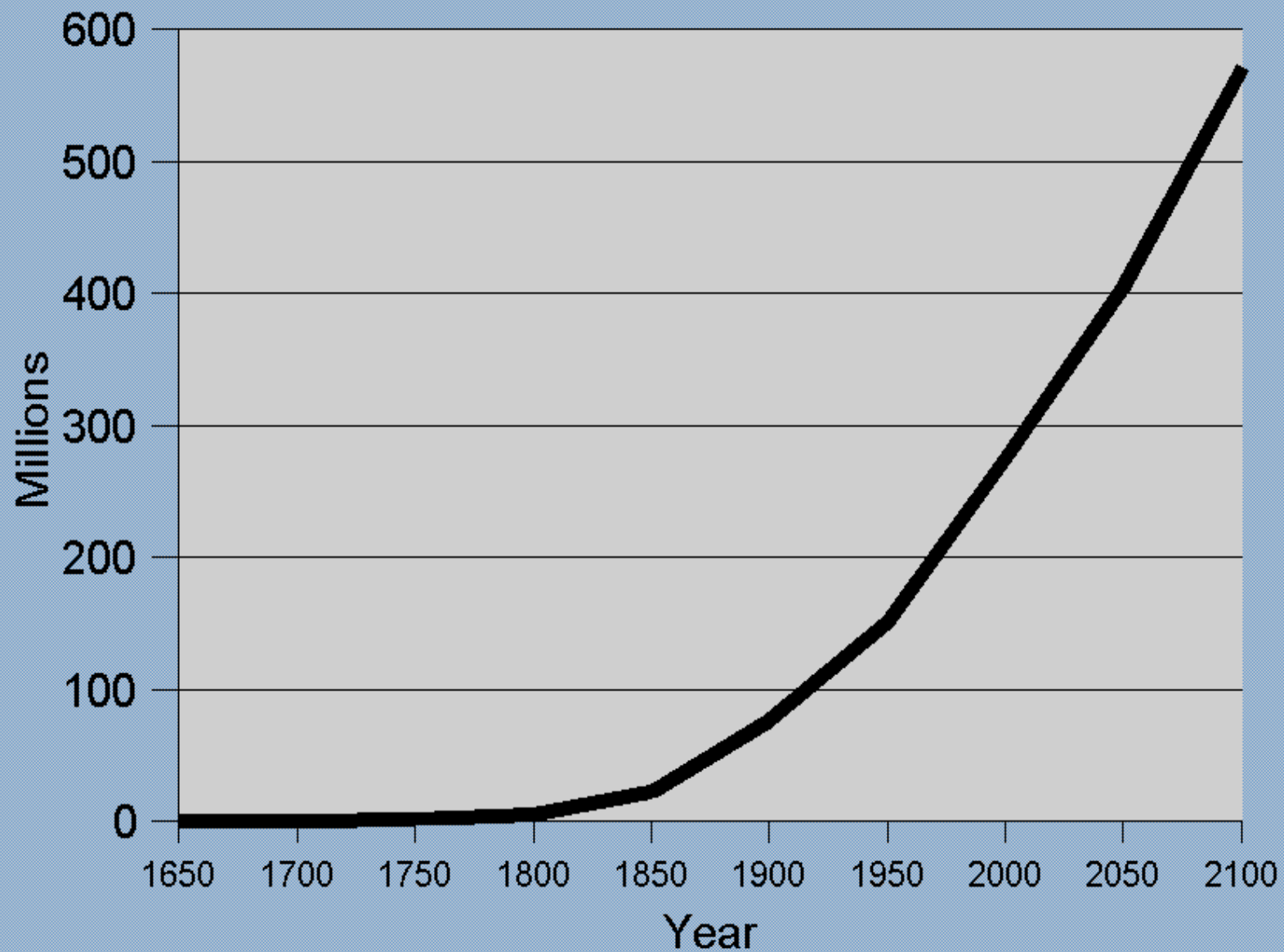
- Based on the RPA National Assessment looking at population, demographic and other trends
 - Population and demographic
 - Urban and rural
 - Outdoor recreation and tourism
 - Environmental opinions and values
 - Footprints

Trends in U.S. Demographics

- Population growth
- Births
- Deaths
- Historic population growth
- Projected future U.S. population
- Projected population density



Historic U.S. Population Growth

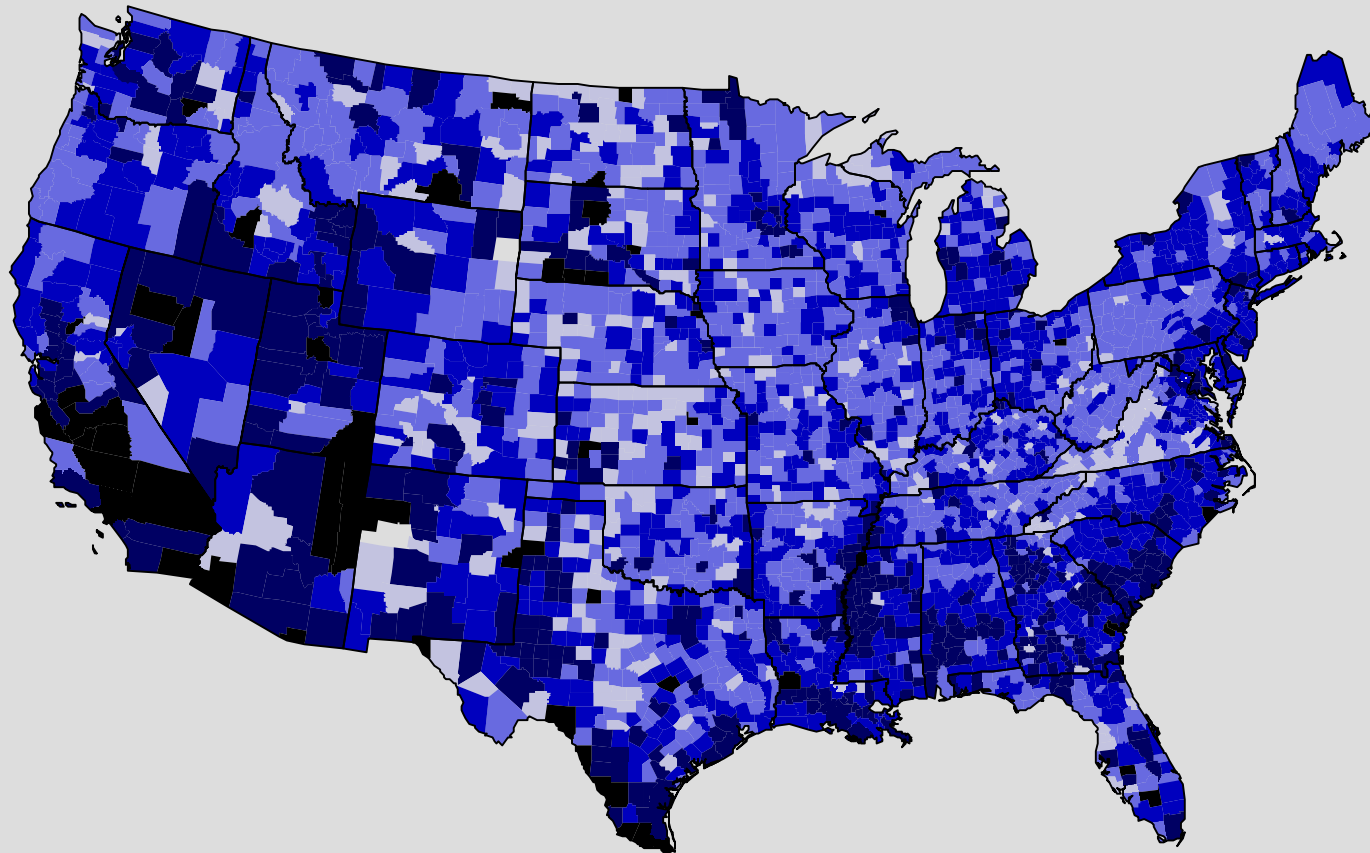


Population Growth by Region, 1980-90

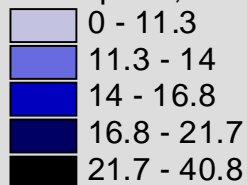
Region	Number of Counties	<u>Growth Rate (%)</u>		Mean	Growth in Number
		Range			
North	1038	-15.4	to 73.9	8.2	2,861,943
South	1311	-20.1	to 93.7	12.7	9,567,968
Rocky Mountain	597	-17.7	to 114.8	8.6	2,373,607
Pacific Coast	133	-10.3	to 78.0	22.6	7,373,802

Source: Woods and Poole Economics, Incorporated.

Filling the West: Distribution of U.S. Birth Rate, 1990



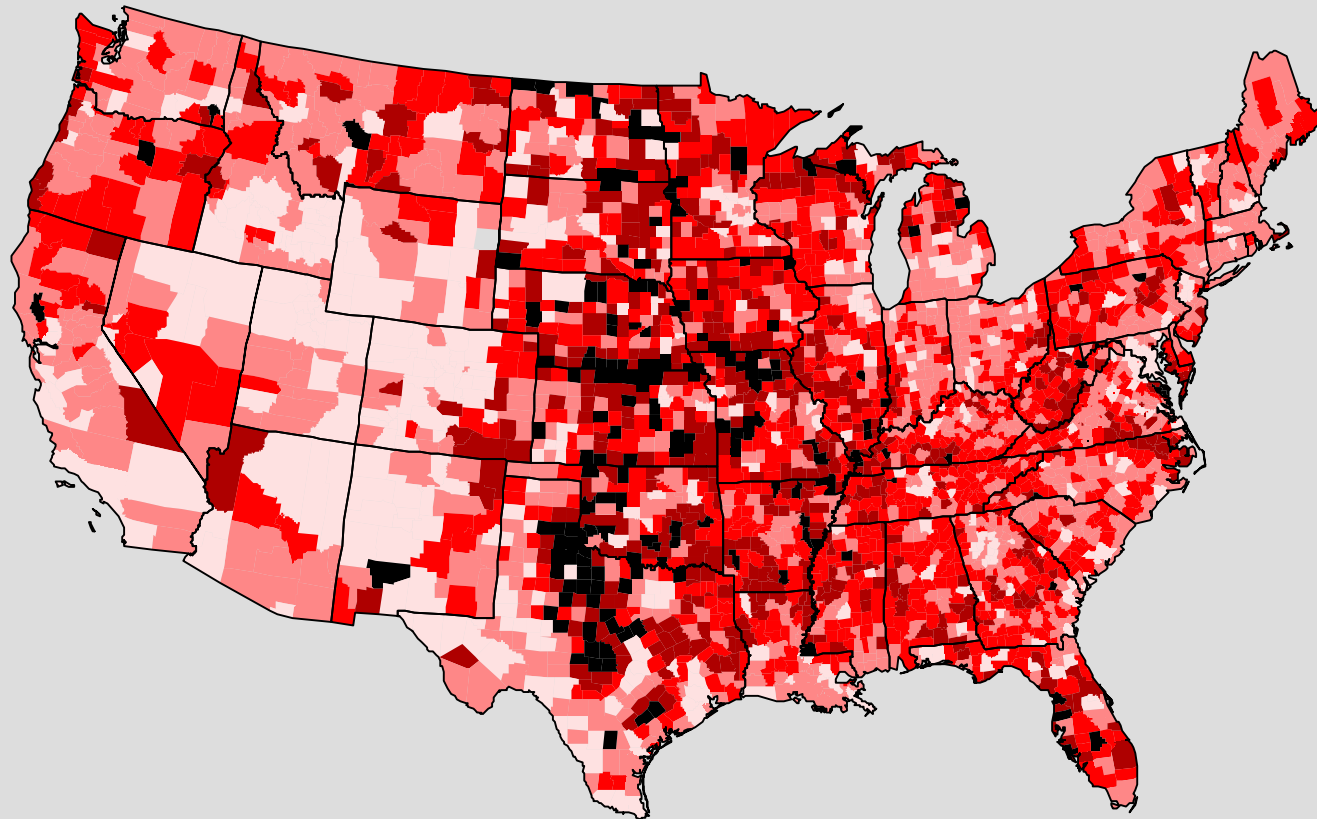
Births per 1,000 Population



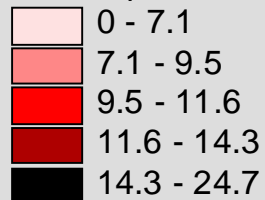
Births per 1,000 Population by
Region and Conterminous U.S.

North	15.8
Pacific Coast	19.6
South	16.5
Rocky Mountains	17.1
Conterminous States	16.7

Emptying the Midwest: Distribution of U.S. Death Rates, 1990



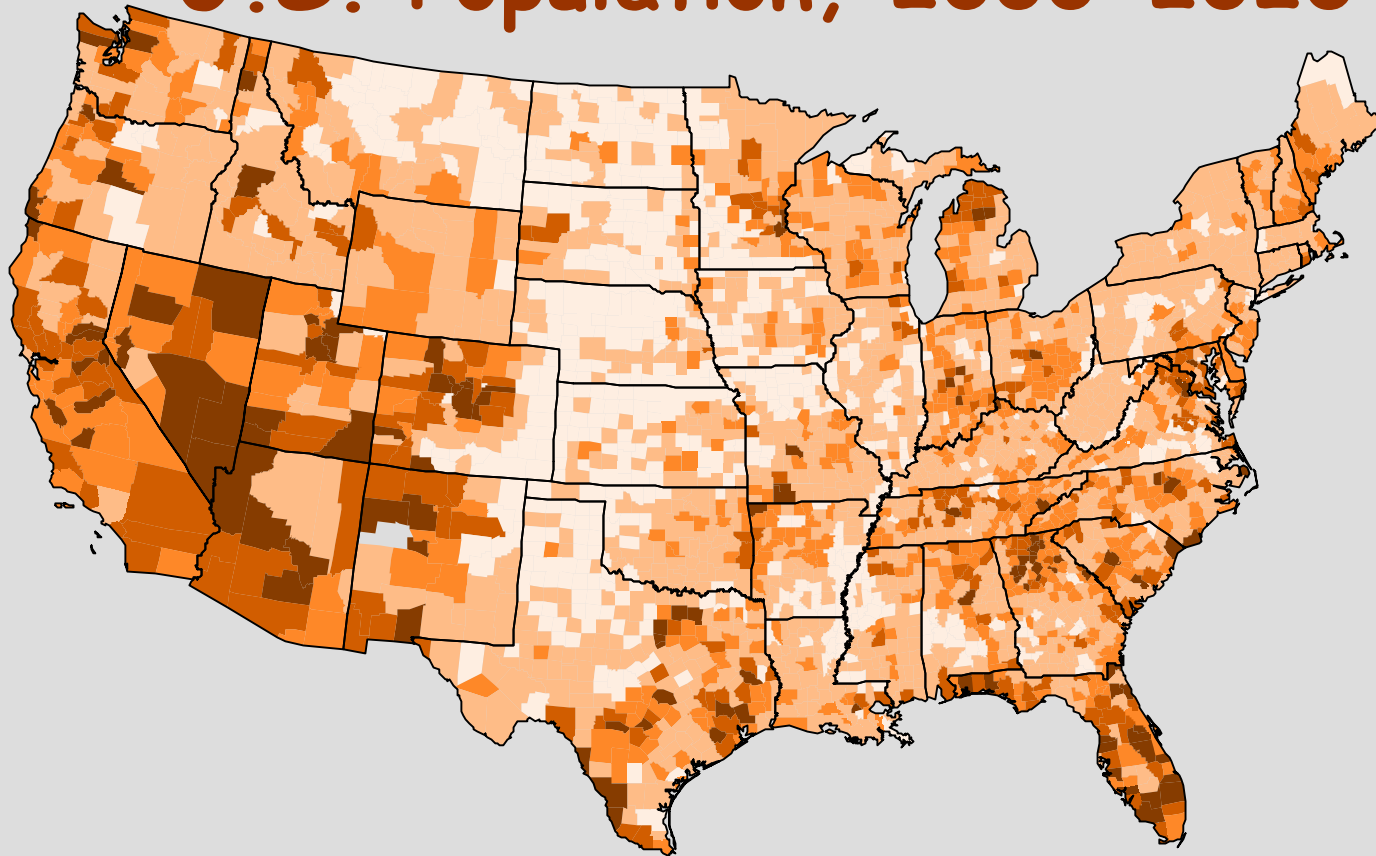
Deaths per 1,000 Population



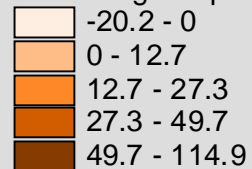
Deaths per 1,000 Population
by Region and Conterminous U.S.

North	10.2
Pacific Coast	8.9
South	10.2
Rocky Mountains	9.8
Conterminous States	10.1

The Geography of Projected Change in U.S. Population, 2000-2020



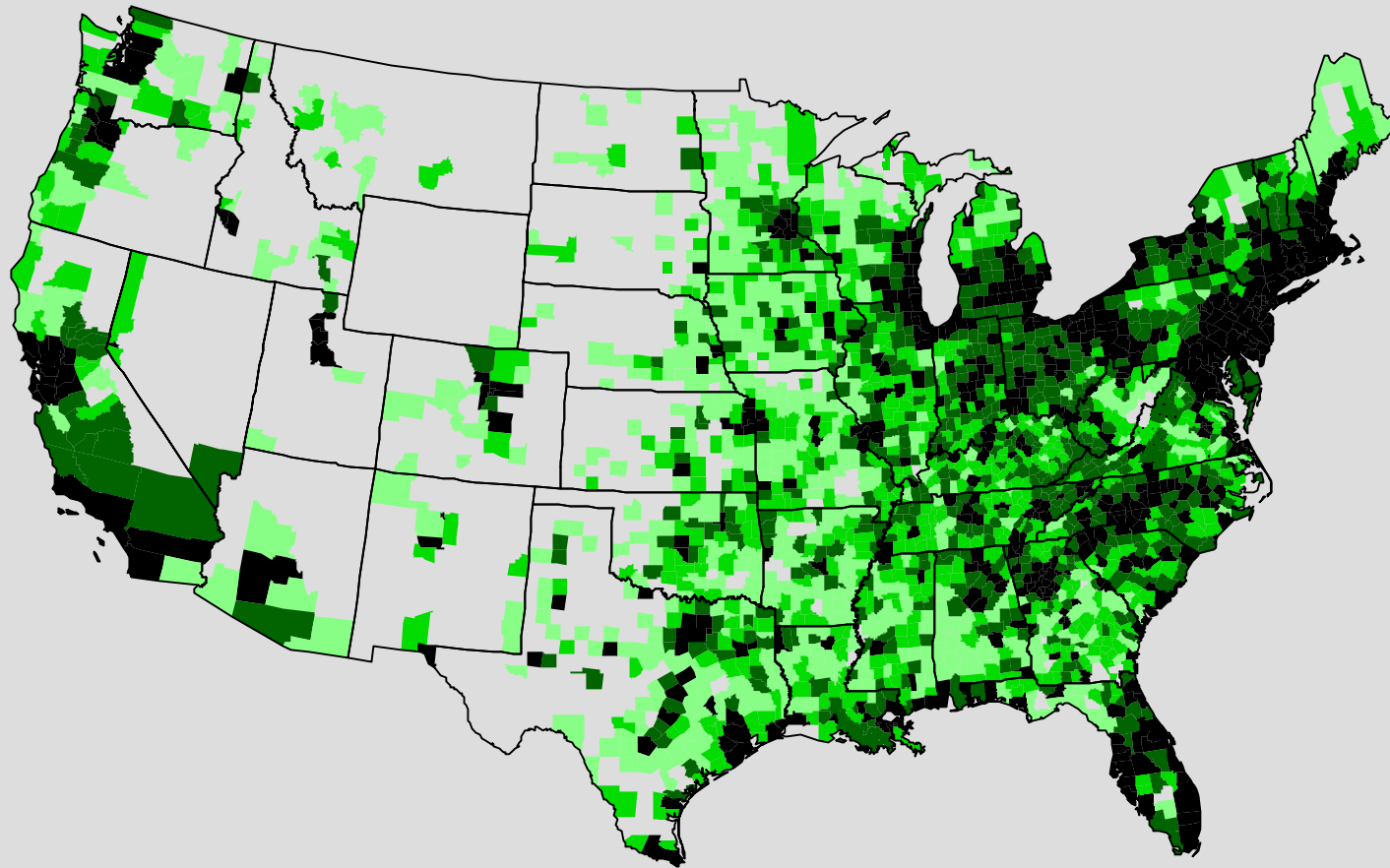
Percentage Population Change



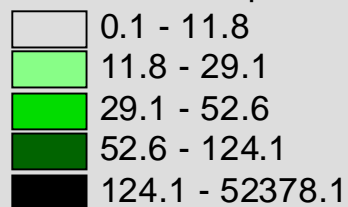
Percentage Population change by
Region and Conterminous U.S.

North	8.2
Pacific Coast	23.7
South	23.8
Rocky Mountains	28.5
Conterminous States	17.4

U.S. Population Density by 2020



Persons Per Square Mile



Persons Per Square Mile by
Region and Conterminous U.S.

North	174.8
Pacific Coast	117.6
South	92.9
Rocky Mountains	16.4
Conterminous States	83.5

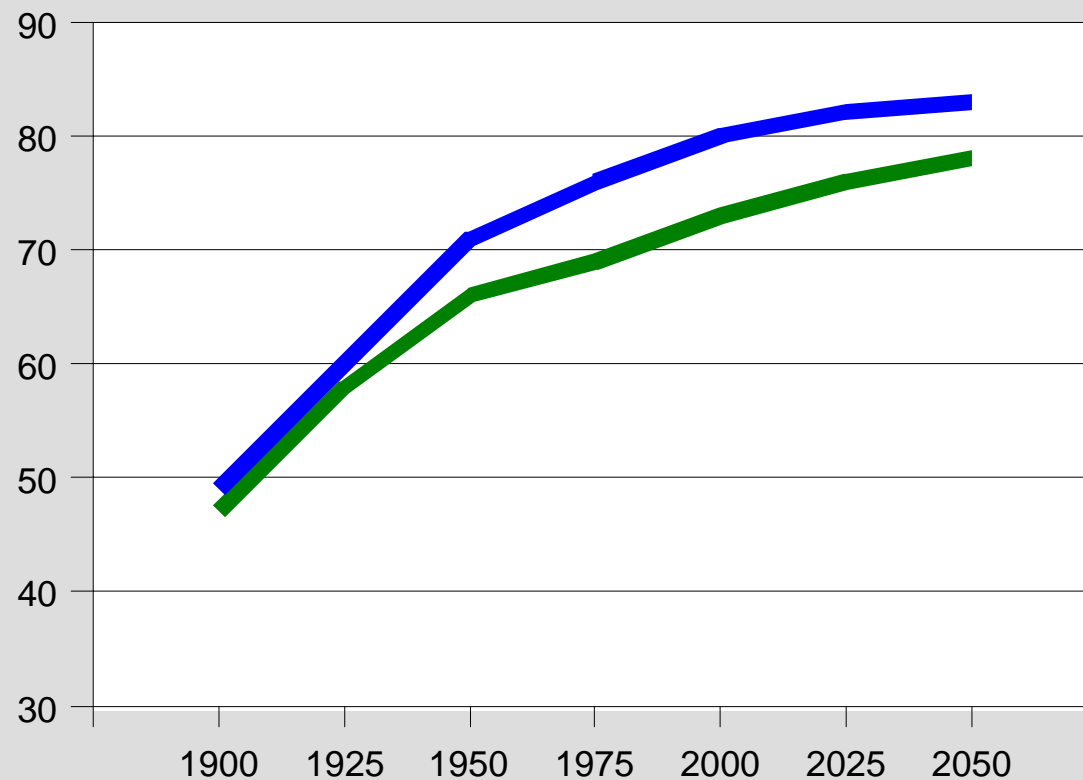
Changing U.S. Population Composition



- Projected percent population age 65 and over
- Future spatial distribution of population age 65 and over
- Historic and projected population by race and origin
- Projected distribution of Hispanic population
- Projected distribution of African-American population
- Projected distribution of Asian and other races population

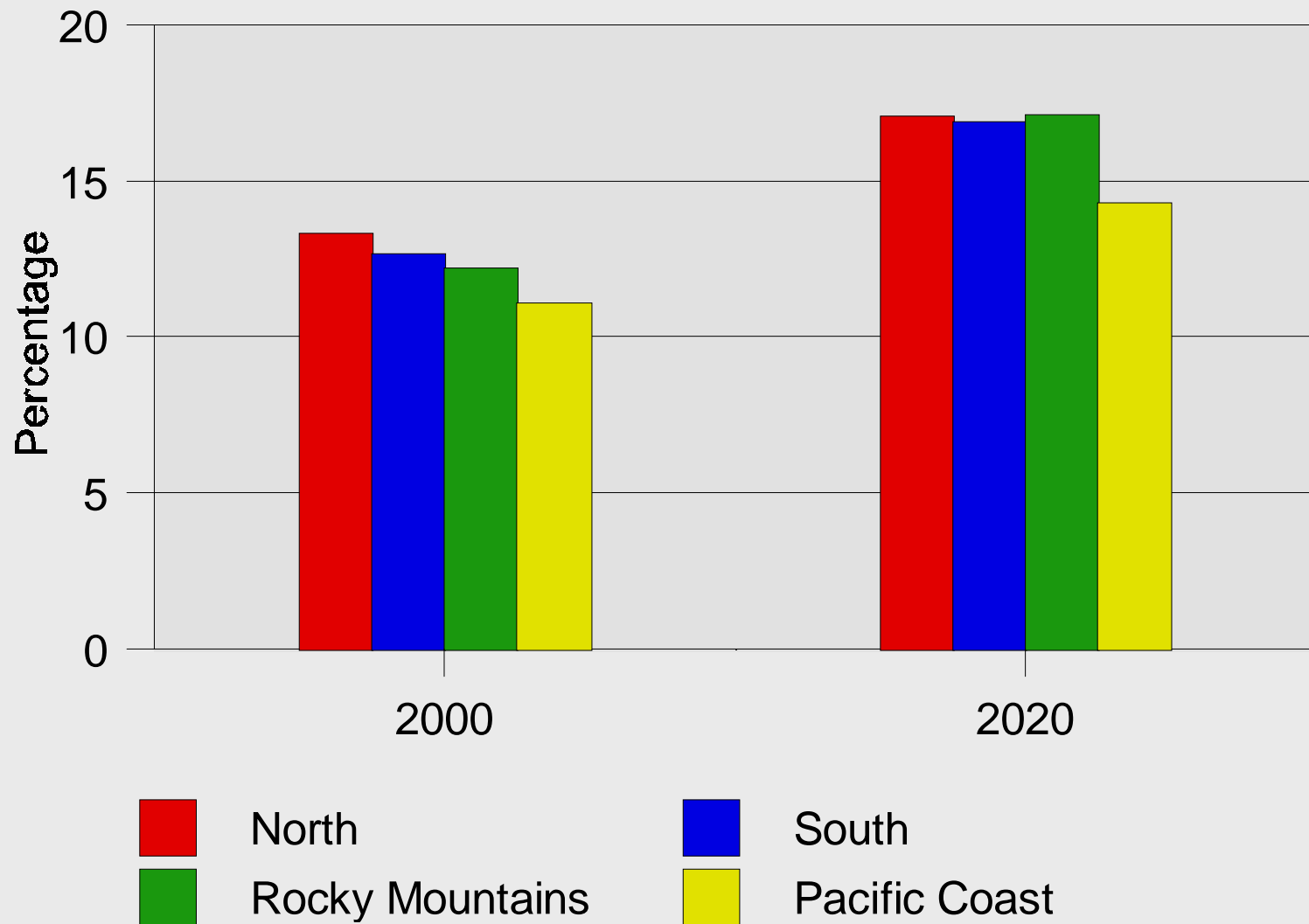
Life Expectancy, 1900-2050

(life expectancy at birth by sex in U.S., 1900-1975, and middle-series projection, 2000-2050)

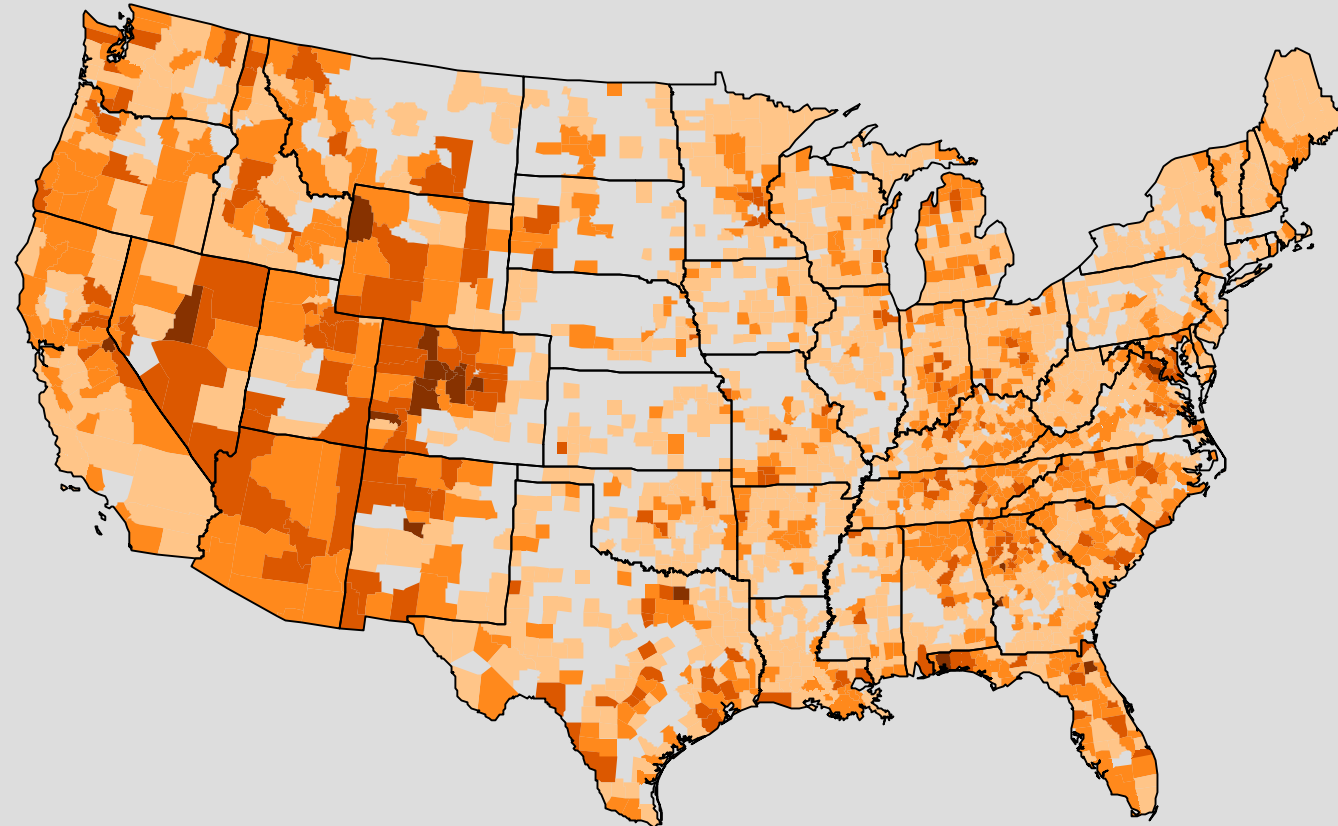


Source: Social Security Administration, Office of the Chief Actuary

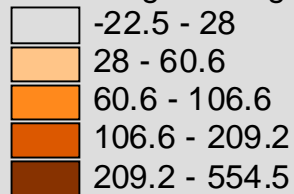
Projected Population Age 65 & Over, 2000 & 2020



Future distribution of Projected Change in Population Age 65 & Over, 2000-2020



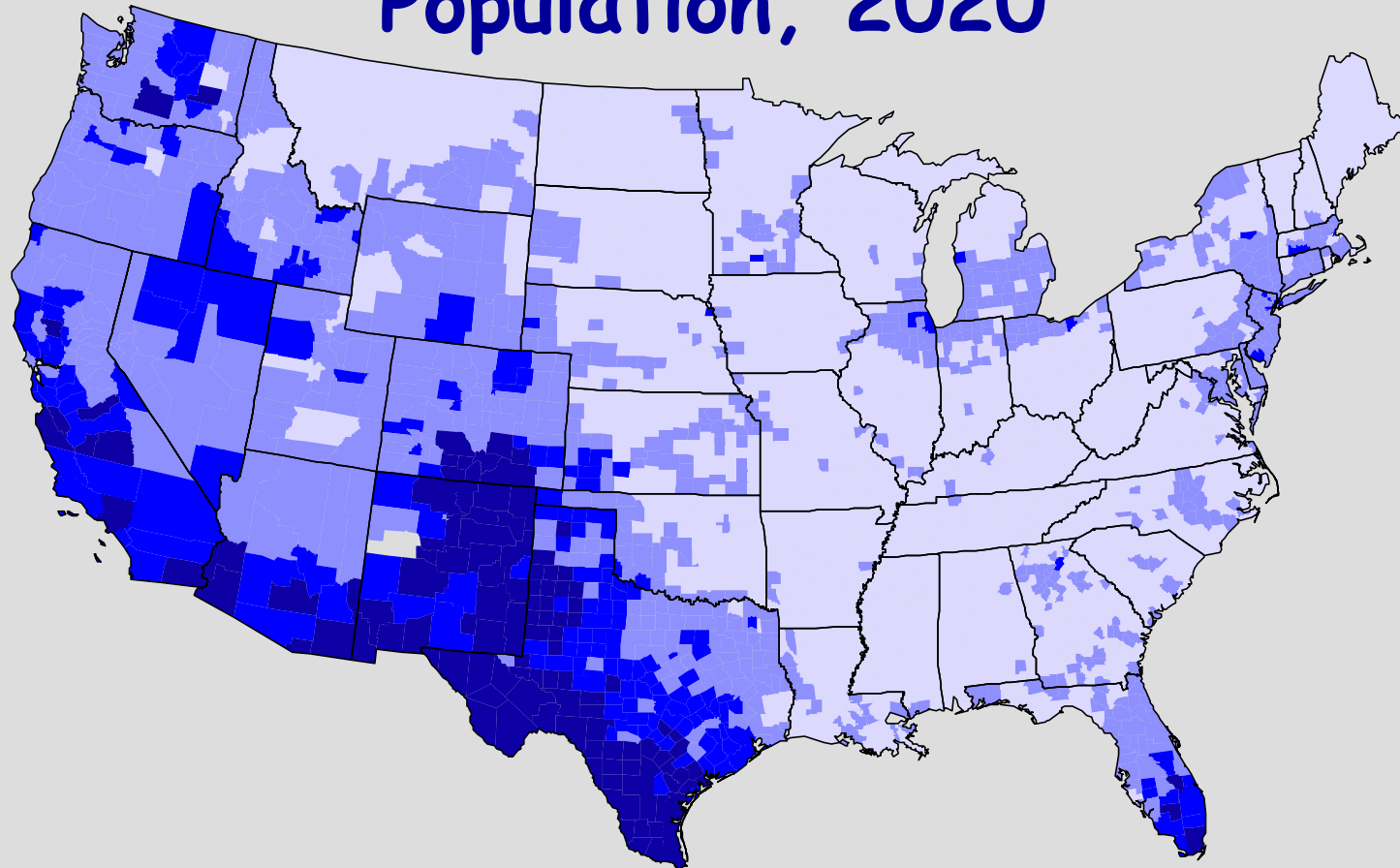
Percentage Change 65 and Older



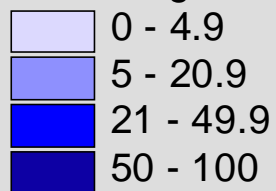
Percentage Change 65 and Older
by Region and Conterminous U.S.

North	38.8
Pacific Coast	59.7
South	65.4
Rocky Mountains	80.5
Conterminous States	53.7

Distribution of Projected U.S. Hispanic Population, 2020



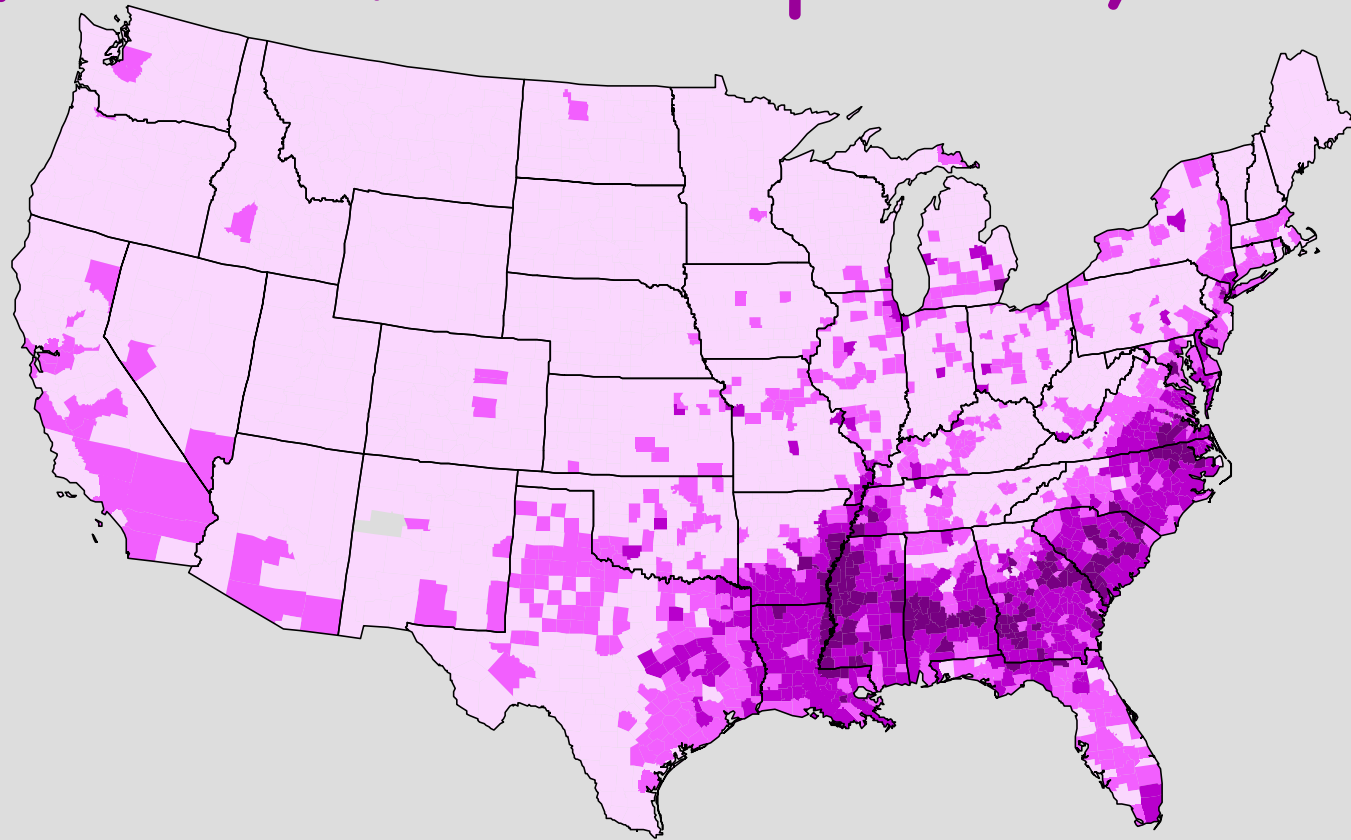
Percentage Hispanic-American



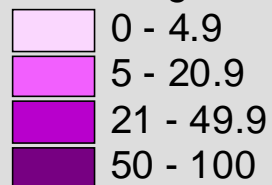
Percentage Hispanic-American by Region
and Conterminous U.S.

North	9.6
Pacific Coast	30.6
South	16.2
Rocky Mountains	21.3
Conterminous States	16.4

Distribution of Projected U.S. African-American Population, 2020



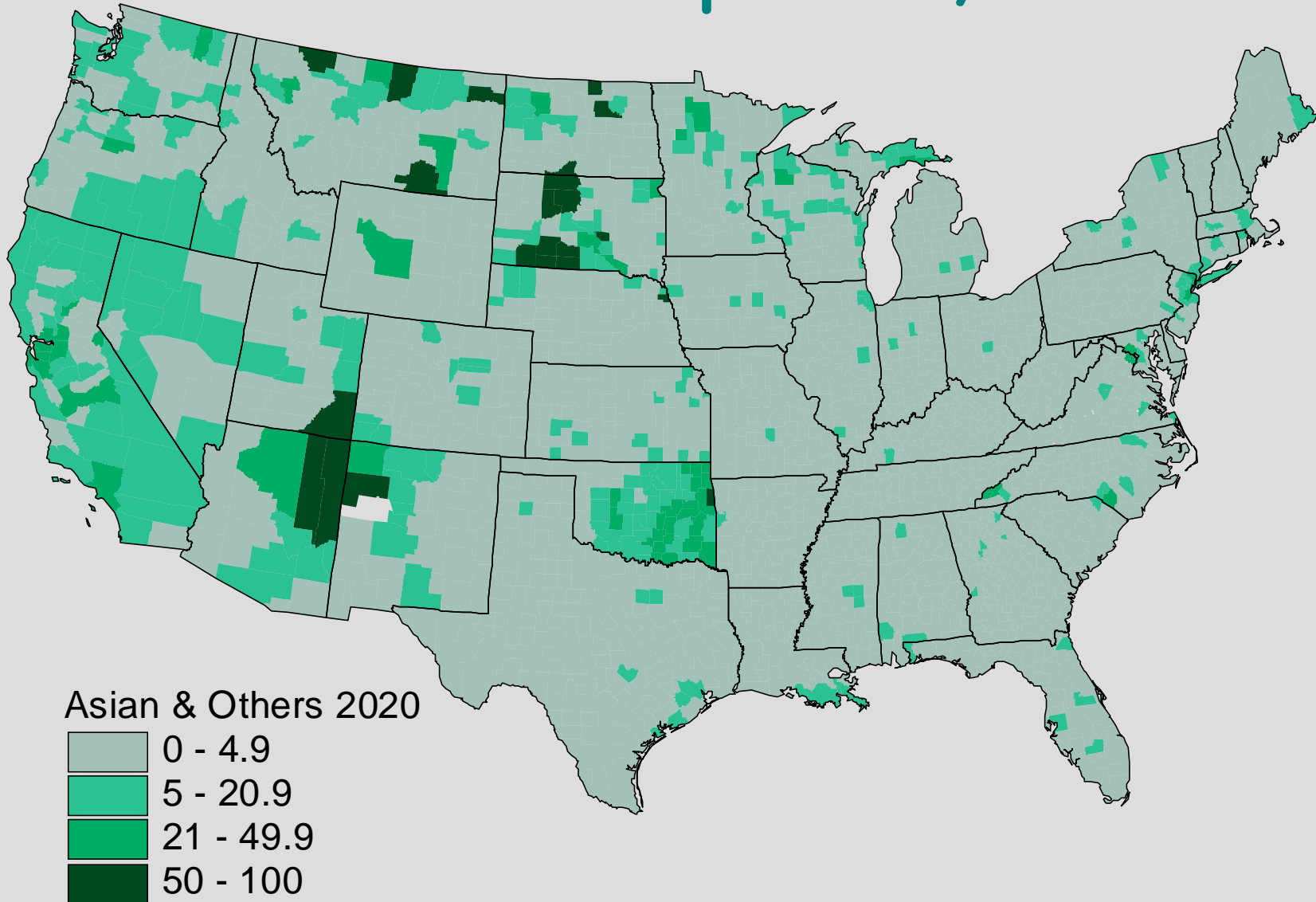
Percentage African-American



Percentage African-American by Region and Conterminous U.S.

North	12.2
Pacific Coast	6.6
South	18.5
Rocky Mountains	3.3
Conterminous States	12.6

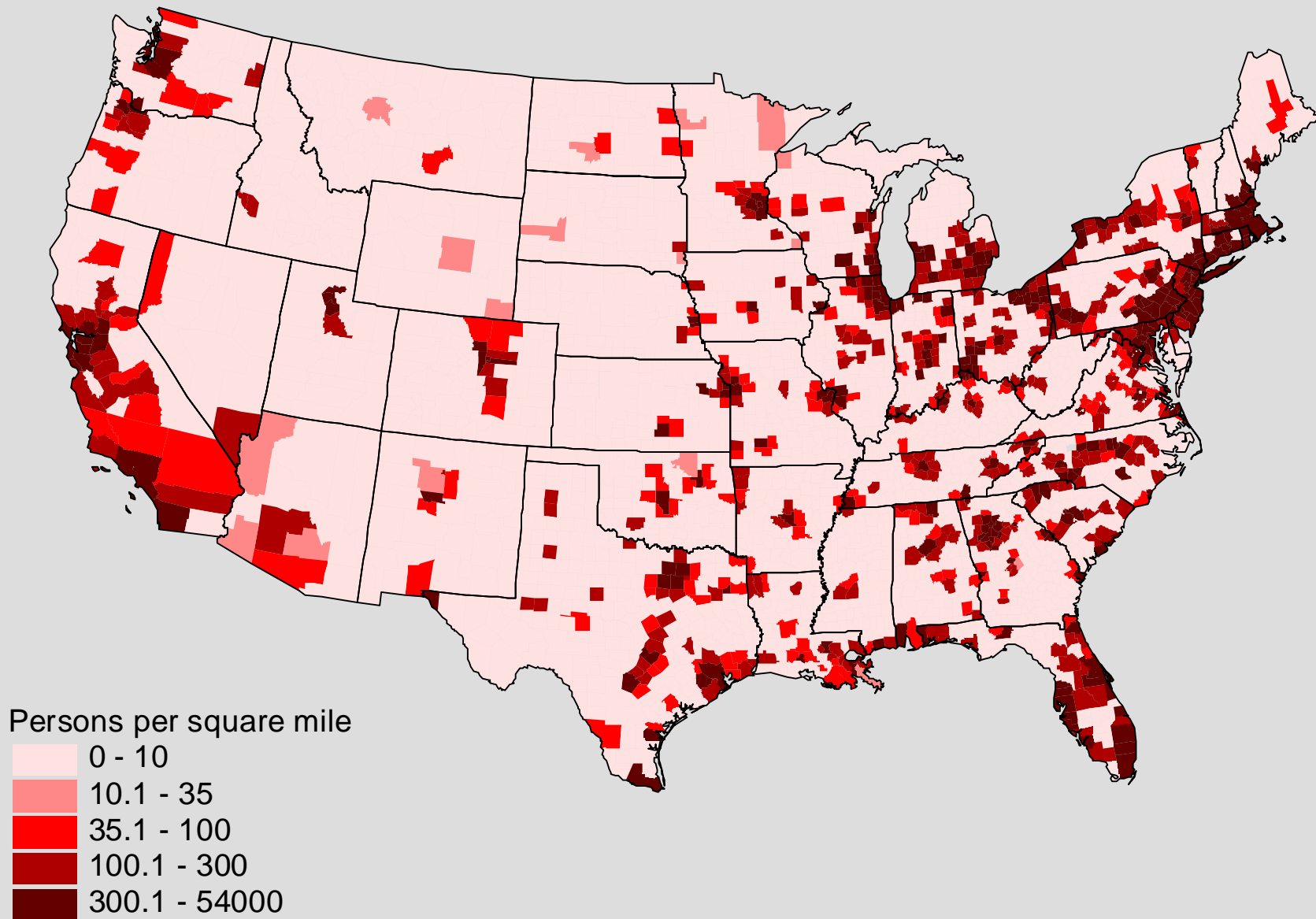
Distribution of Projected U.S. Asians and Others Population, 2020



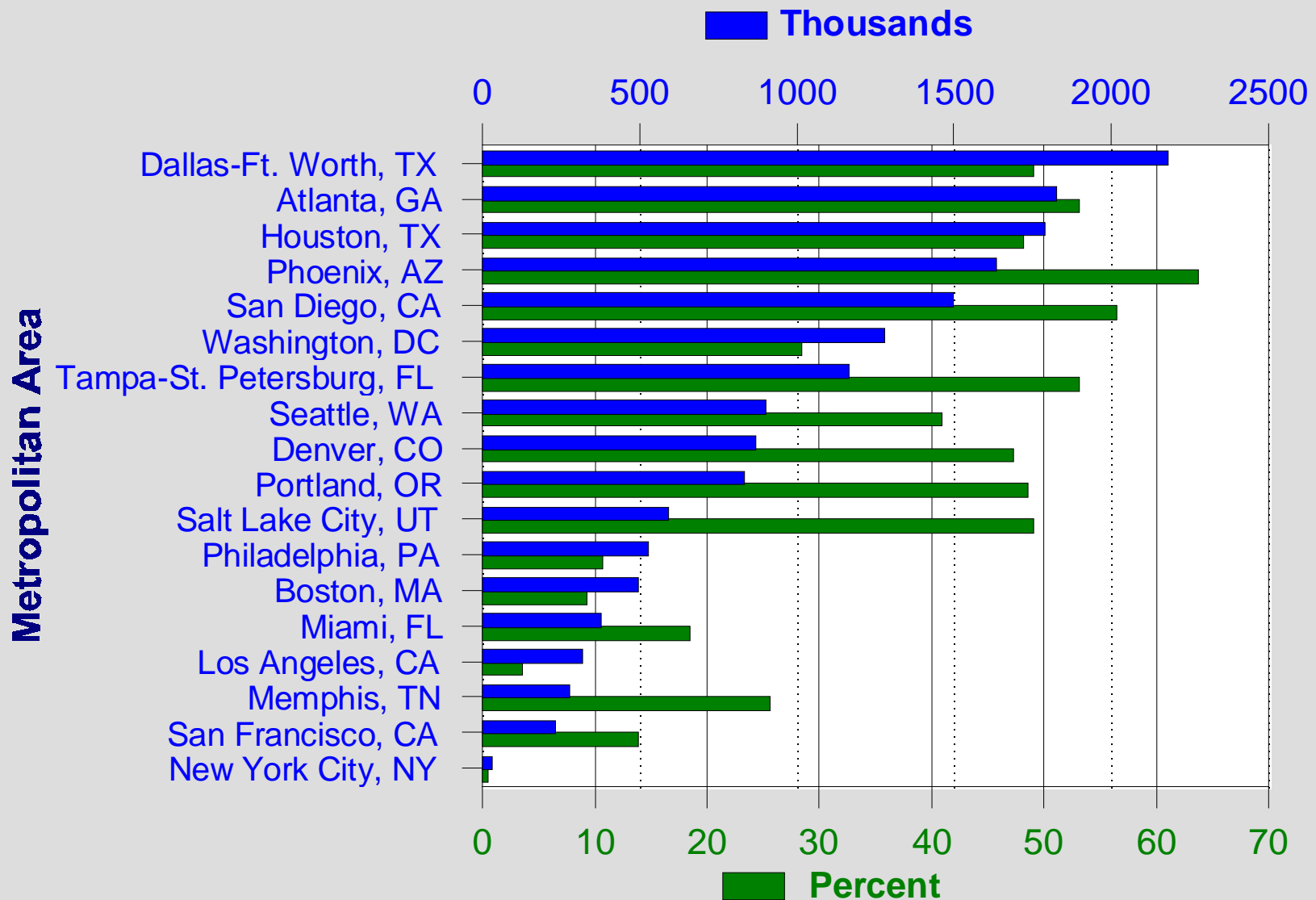
Trends in Urban Growth

- Urban counties, population per square mile in 1999
- Comparison of projected population growth in major metro areas
- Ethnic residential choices, top 5 metro areas

Urban & Near-Urban Counties



Comparison of Projected Population Growth among Metropolitan Areas, 1995-2020



Top 5 Metropolitan Choices by Ethnicity, 1990-1996

Racial or Ethnic Group	Top 5 Ranked Areas
Hispanic	<ol style="list-style-type: none">1. Los Angeles2. New York3. San Francisco4. Houston5. Chicago
Asian	<ol style="list-style-type: none">1. Los Angeles2. New York3. San Francisco4. Washington D.C.5. Chicago
African American	<ol style="list-style-type: none">1. Atlanta2. New York3. Washington4. Houston5. Miami
Anglo American	<ol style="list-style-type: none">1. Atlanta2. Phoenix3. Dallas4. Las Vegas5. Portland

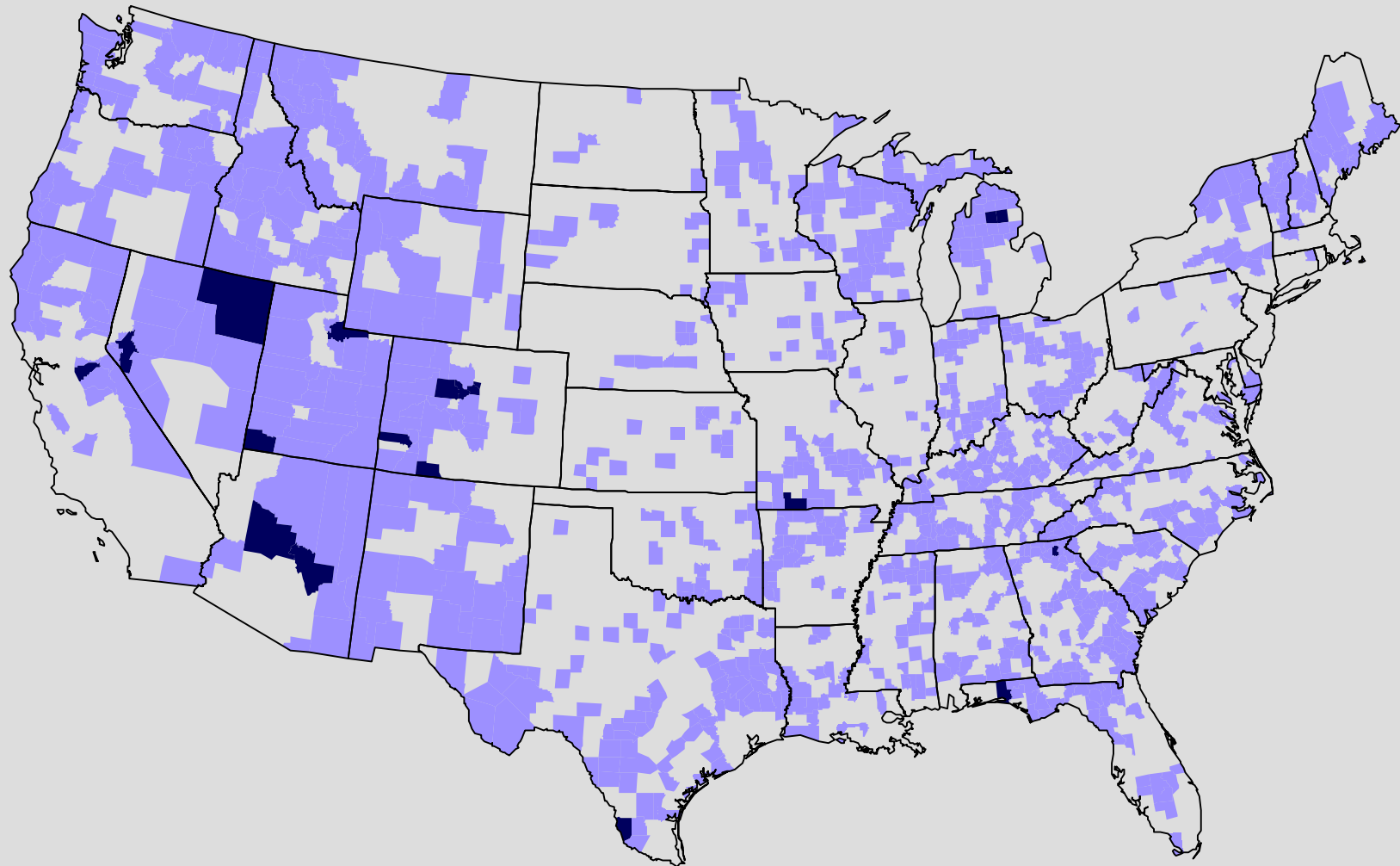
Source: Frey, William H. 1998. The diversity myth. American Demographics. June.

Rural Communities in Transition



- Rural counties with highest projected population gain
- Rural counties with highest projected population loss
- Rural conversion in urban built-up areas
- Retirement destination counties
- Private land ownership

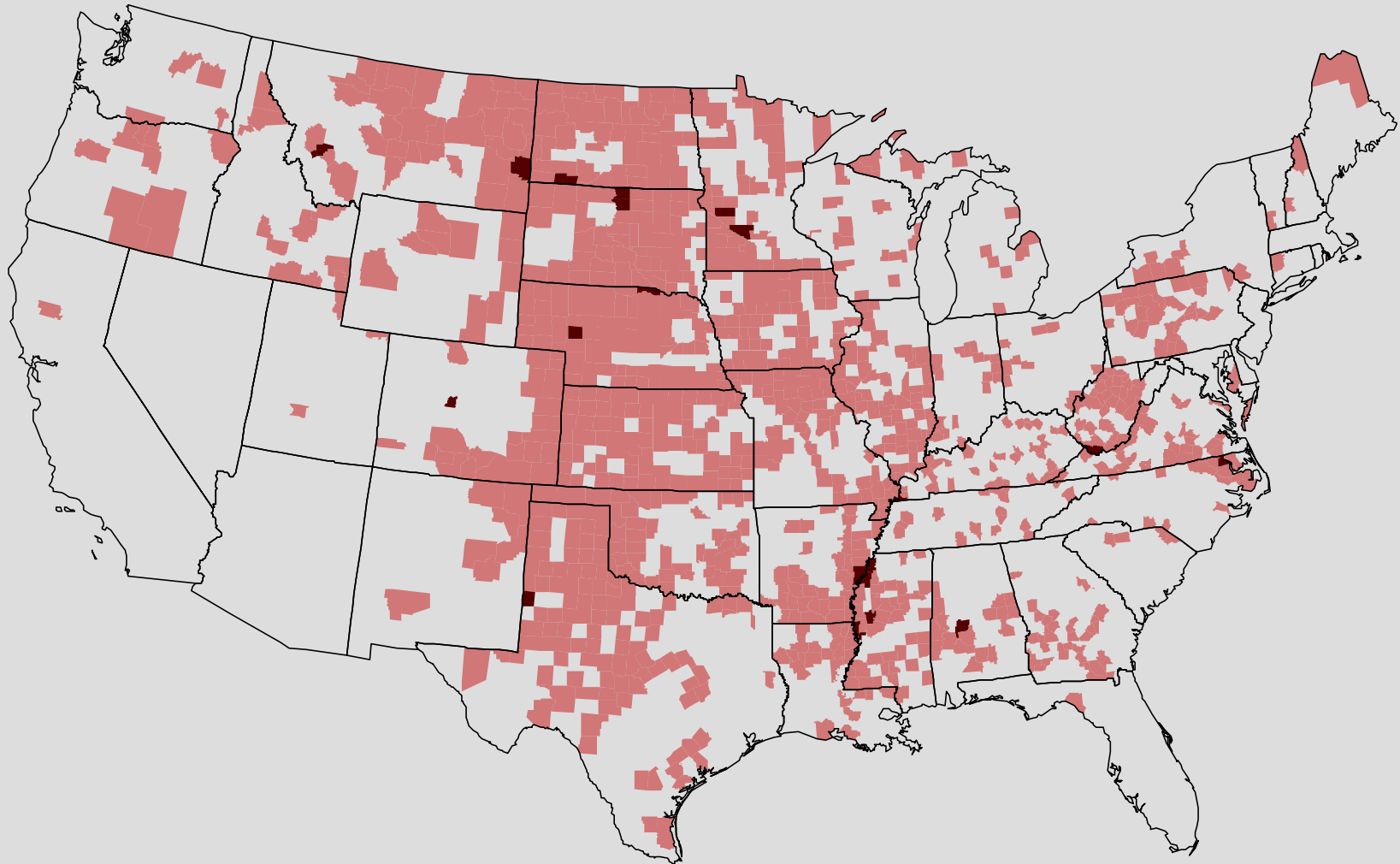
Non-metropolitan Counties with the Highest Projected Population **Gain**, 2000-2020



Percentage Change in Non-metropolitan Population

- Top 1/2 Counties w/highest non-metropolitan growth rates
- Top 20 Counties w/highest non-metropolitan growth rates

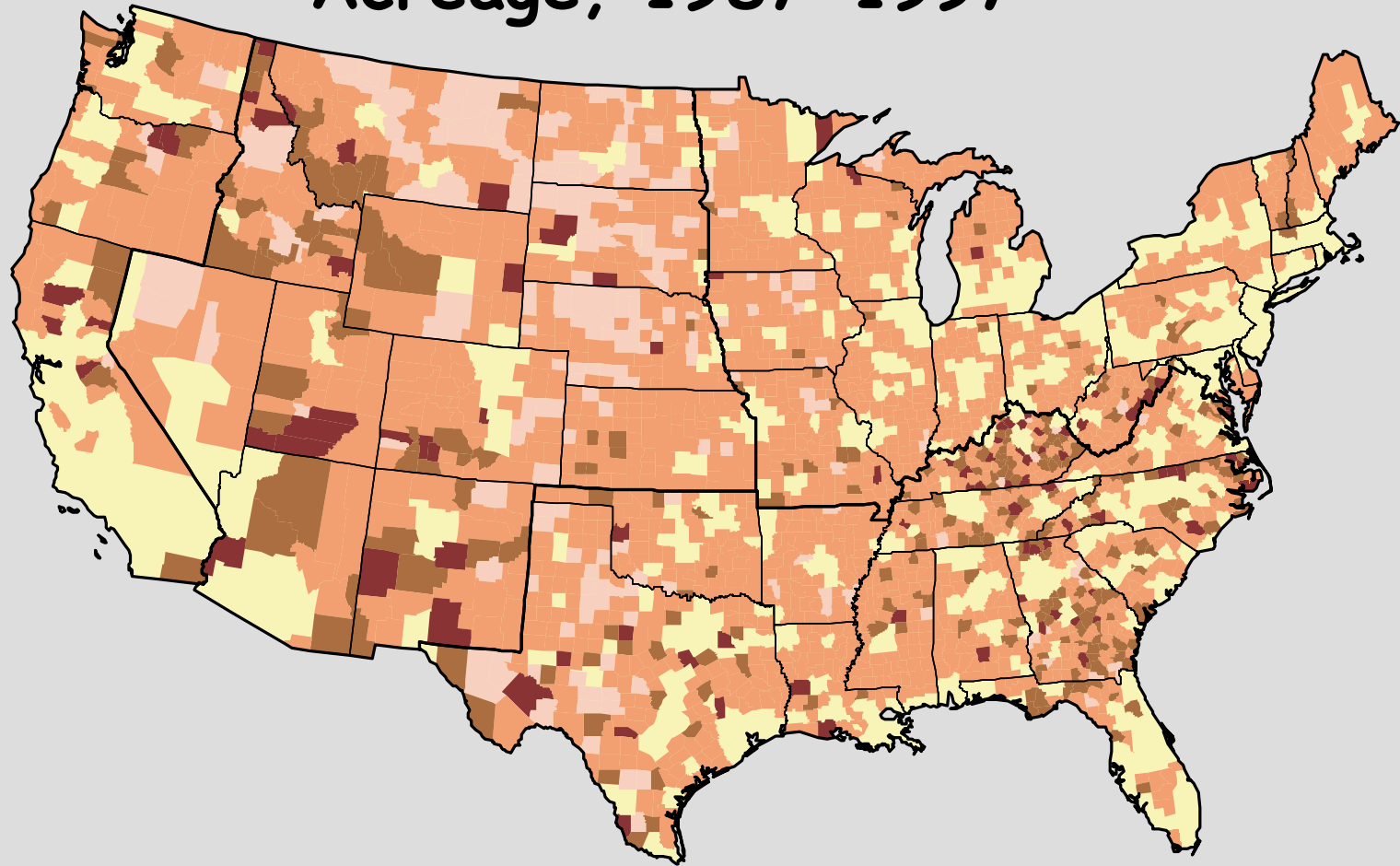
Non-metropolitan Counties with the Highest Projected Population Loss, 2000-2020



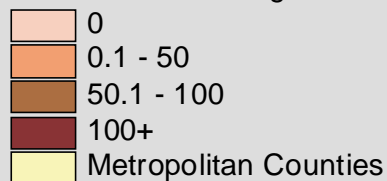
Percentage Change in Non-metropolitan Population

- Top 1/2 Counties w/lowest non-metropolitan growth rates
- Top 20 Counties w/lowest non-metropolitan growth rates

Conversion from Rural to Urban and Built-up Acreage, 1987-1997



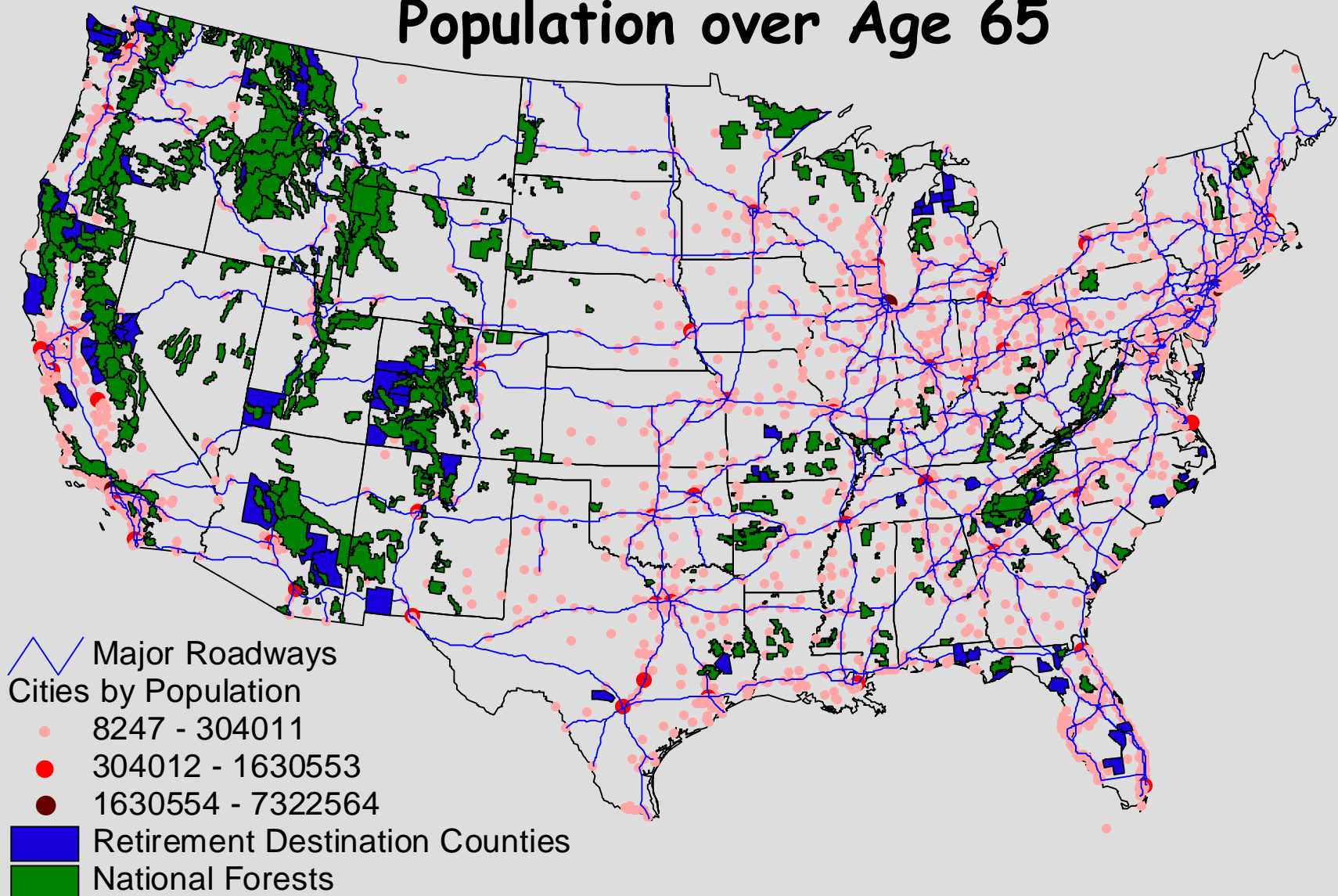
Percent Area Change to Urban/Built-up Uses



Percentage Change to Urban/Built-up
Acres by Region and Conterminous U.S.

North	8.8
Pacific Coast	19.5
Rocky Mountain	10.4
South	18.8
Conterminous U.S.	13.9

Projected Retirement Destination Counties within Top 20% of Counties Increasing in Population over Age 65



Private Land Owners and How They Use Their Land



The Owners

	<u>N</u>	<u>S</u>
Mean years owned	21.1	21.9
Percent residing on the land	54.8	43.8
Added acreage since original purchase	16.7	14.9
Sold acreage since purchase	14.1	14.5

The Land

(Percent cover)

Forest/woodland	41.0	47.6
Range	1.9	4.4
Crop or hayland	37.8	20.7
Pastureland	12.6	21.0
Water	1.8	2.2
Cultivated	3.6	3.1
Barren	1.1	1.1

Landowner Positions on Nature and Making Money

Landowner Management strategy for land	North		South	
	Lives on land	Does not live on land	Lives on land	Does not live on land
I will emphasize improving wildlife, water, aesthetics, or other natural components and do not intend to grow timber, raise livestock, or similarly use my land to make money	18.7	18.0	13.6	9.3
I will emphasize improving the natural components of my land, but I also plan to use my land to make money	25.3	21.0	27.2	27.2
I will emphasize using my land to make money, but I will also put some effort into maintaining the natural components	22.1	23.4	21.9	22.6
I will mostly use my land just to make money	6.9	11.8	4.1	9.5
Don't know/Not applicable	26.9	25.7	33.2	31.4

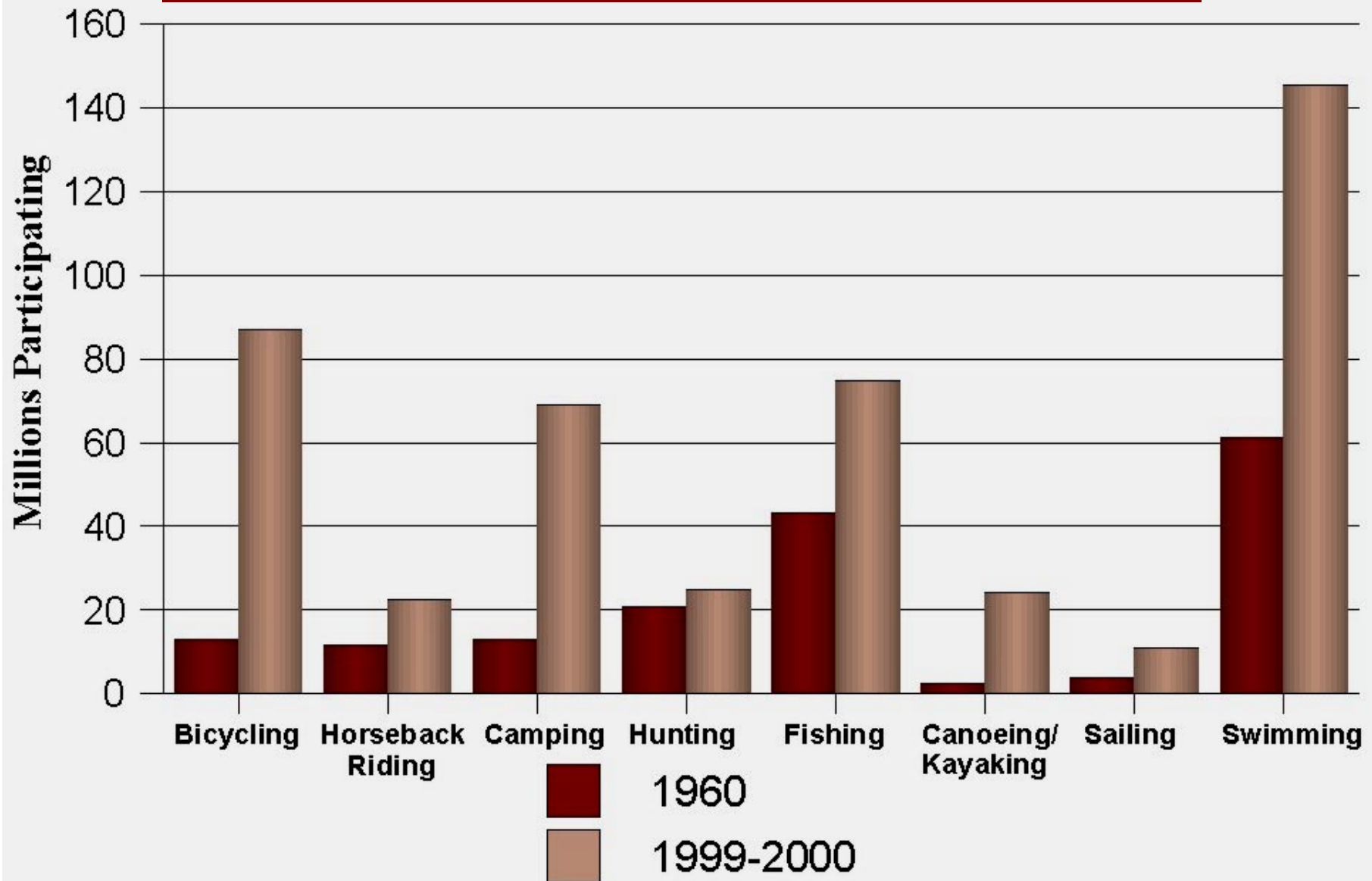
Outdoor Recreation

- Distribution of recreation demand

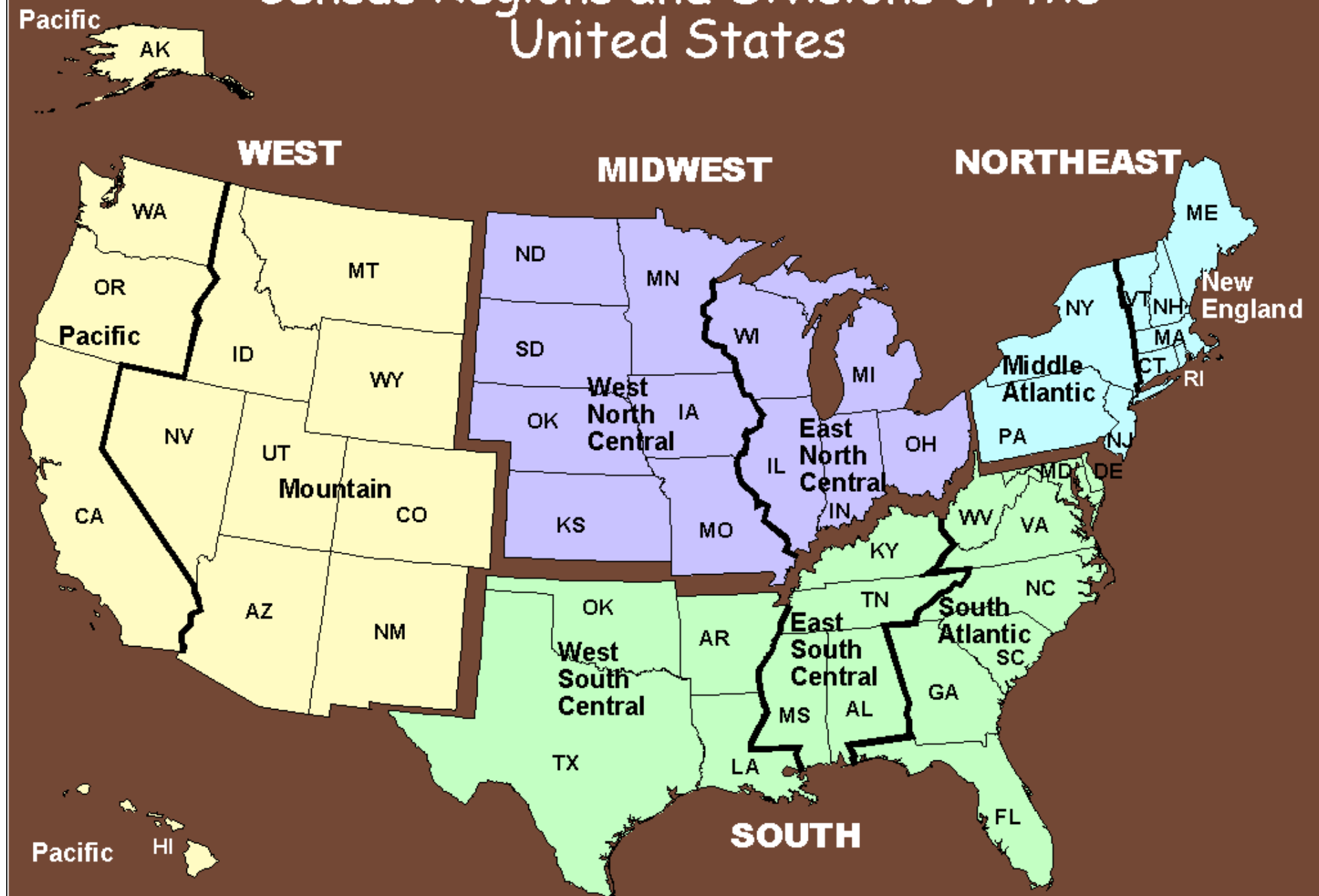
- Recreation trends



LONG TERM TRENDS SINCE 1960



Census Regions and Divisions of the United States



Recreation demand growth by region

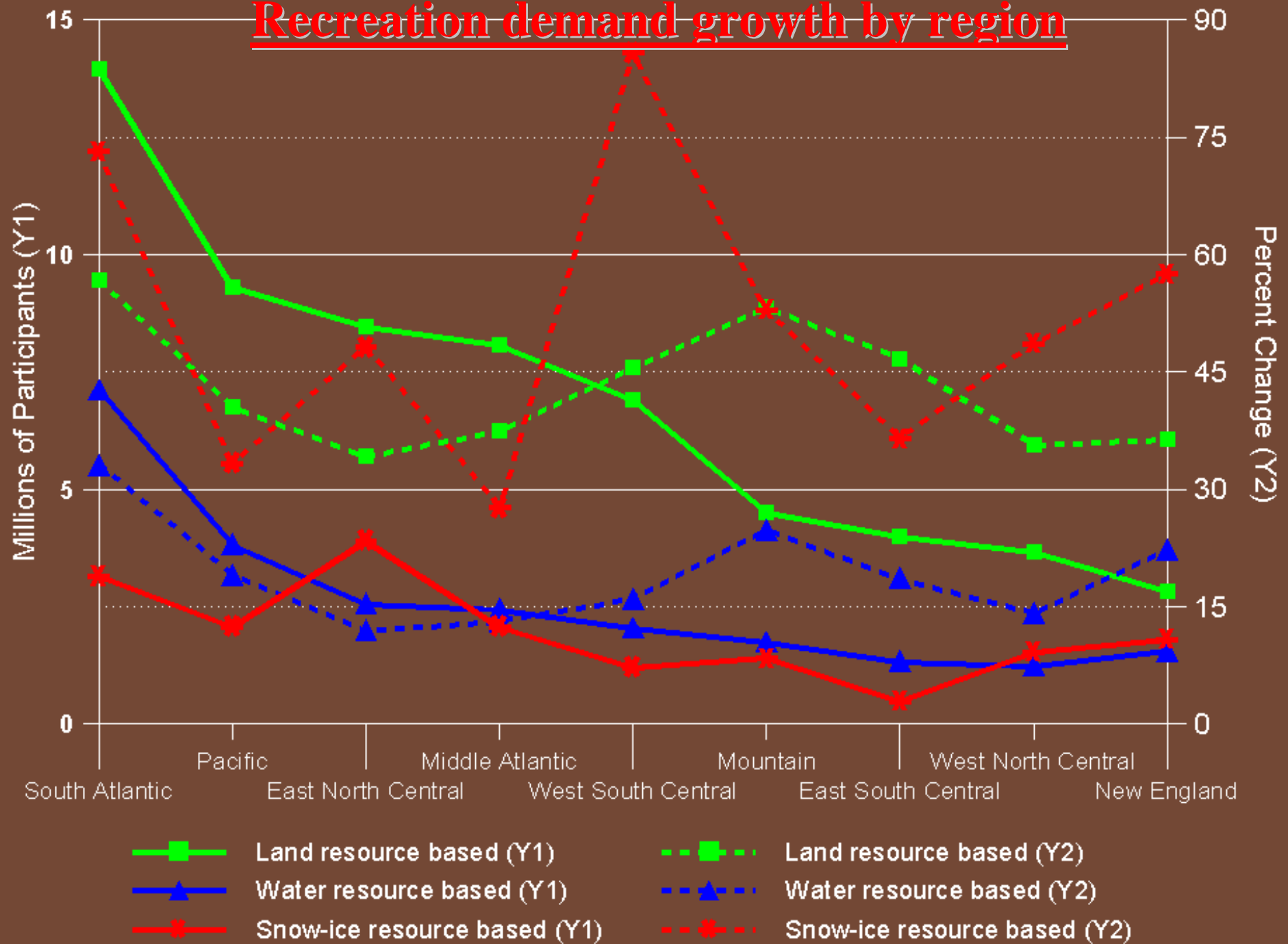


Table 3. III.1 – Ten most popular activities in 2000-01 and popularity ranking in 1994-95.

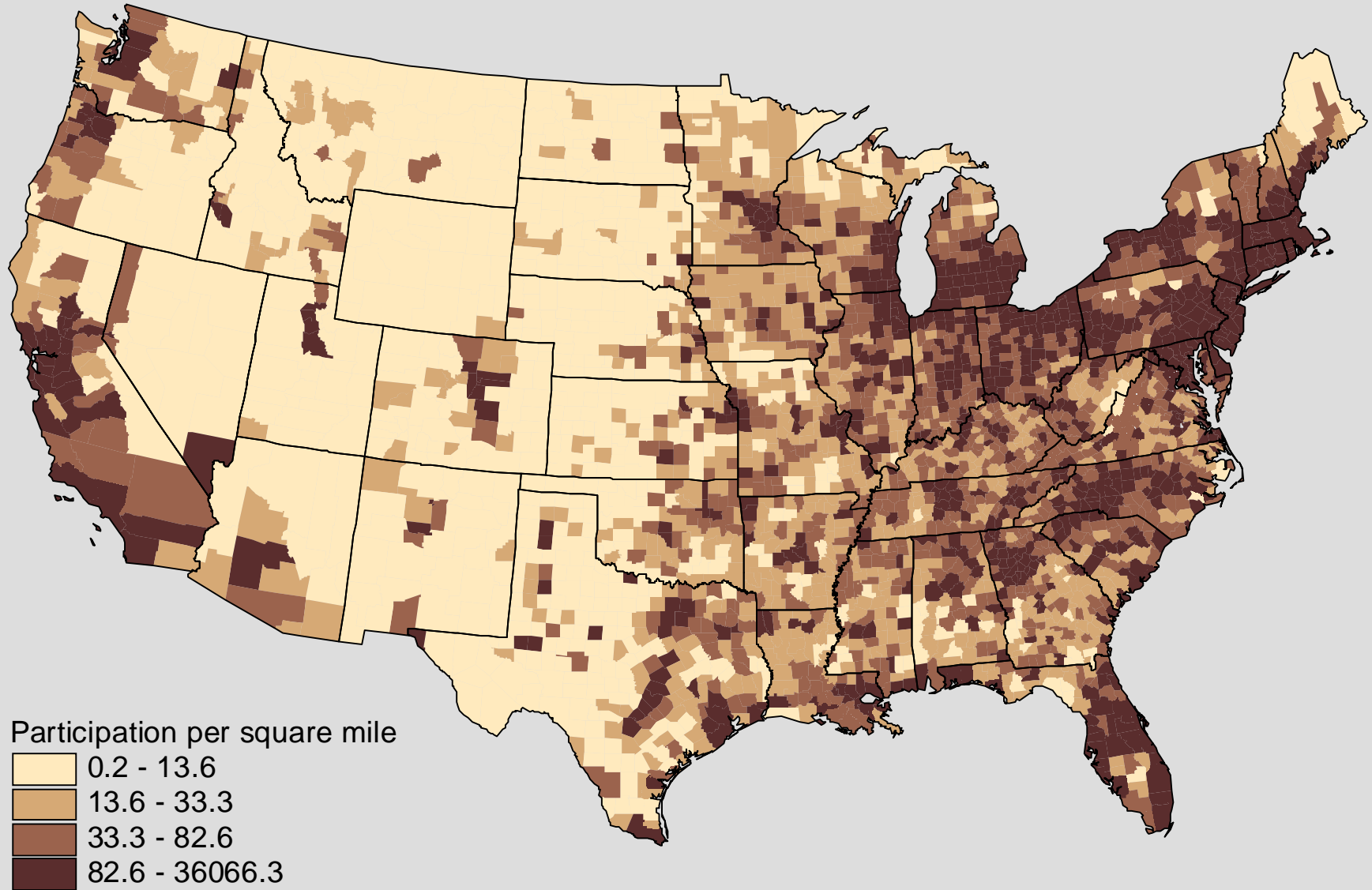
Activities	Percent of Population 16+ Participating in 2000-01	Rank Order of Popularity 1994-95	Percent of Population in 1994-95
Walking for pleasure	83.1	1	66.7
Family gatherings	73.6	3	61.8
Visiting a beach	60.7	2	62.1
Visiting nature centers	57.4	8	46.5
Picnicking	54.7	5	49.1
Sightseeing	52.1	4	56.6
Attending outdoor sports events	49.9	7	47.5
Visiting historic sites	46.3	9	44.1
Viewing wildlife	44.7	¹	31.2
Swimming in lakes, streams, etc.	42.1	10	39.0

¹ Pool swimming was number 6 in 1994-95, but has since been replaced by viewing wildlife as one of the top 10 in 2000-01.

Aggregated Occasions of Participation Per Year by Grouping of Activities (2000-01)

Activity Group	Percent of Respondents	Mean Number of Occasions
All activities	98.5	273.8
Viewing/learning/gathering activities	88.4	136.1
Developed site activities	94.9	93.3
Trail activities	40.4	40.3
Swimming/surfing/beach activities	62.8	36.6
Motorized activities	62.0	31.3
Hunting and fishing	38.1	26.9
Snow activities	19.3	13.3
Risk activities	35.2	12.0
Other non-motorized activities	22.8	7.9

Demand for Land-based Activities



Americans' Are an Environmental Group

- Environmental attitudes
- Environmental protection laws and regulations
- Spending on the environment

Humans Were Meant to Rule Over Nature

29%

14%
Strongly Agree

15%
Somewhat Agree

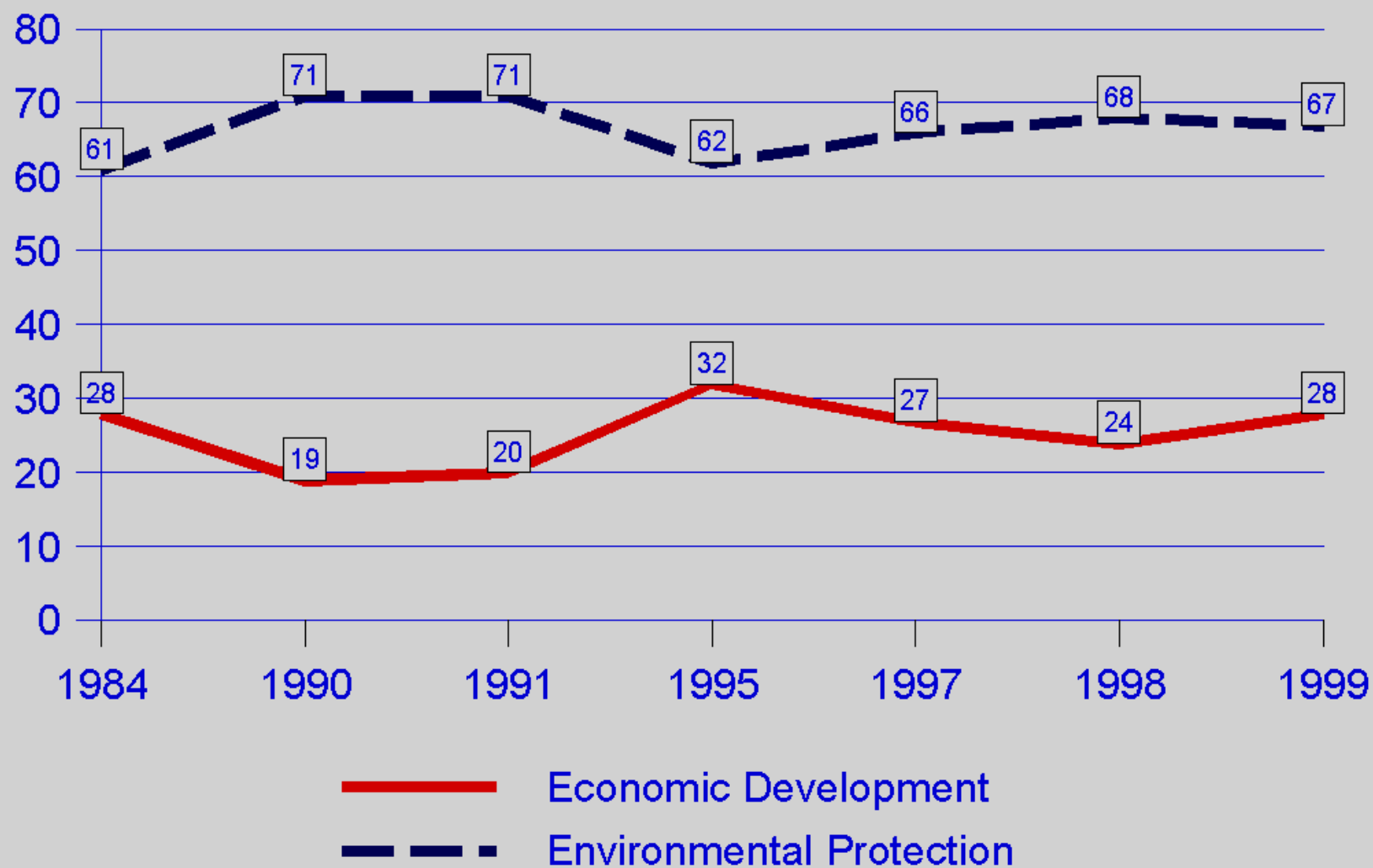
61%

(6% Neutral)

19%
Somewhat Disagree

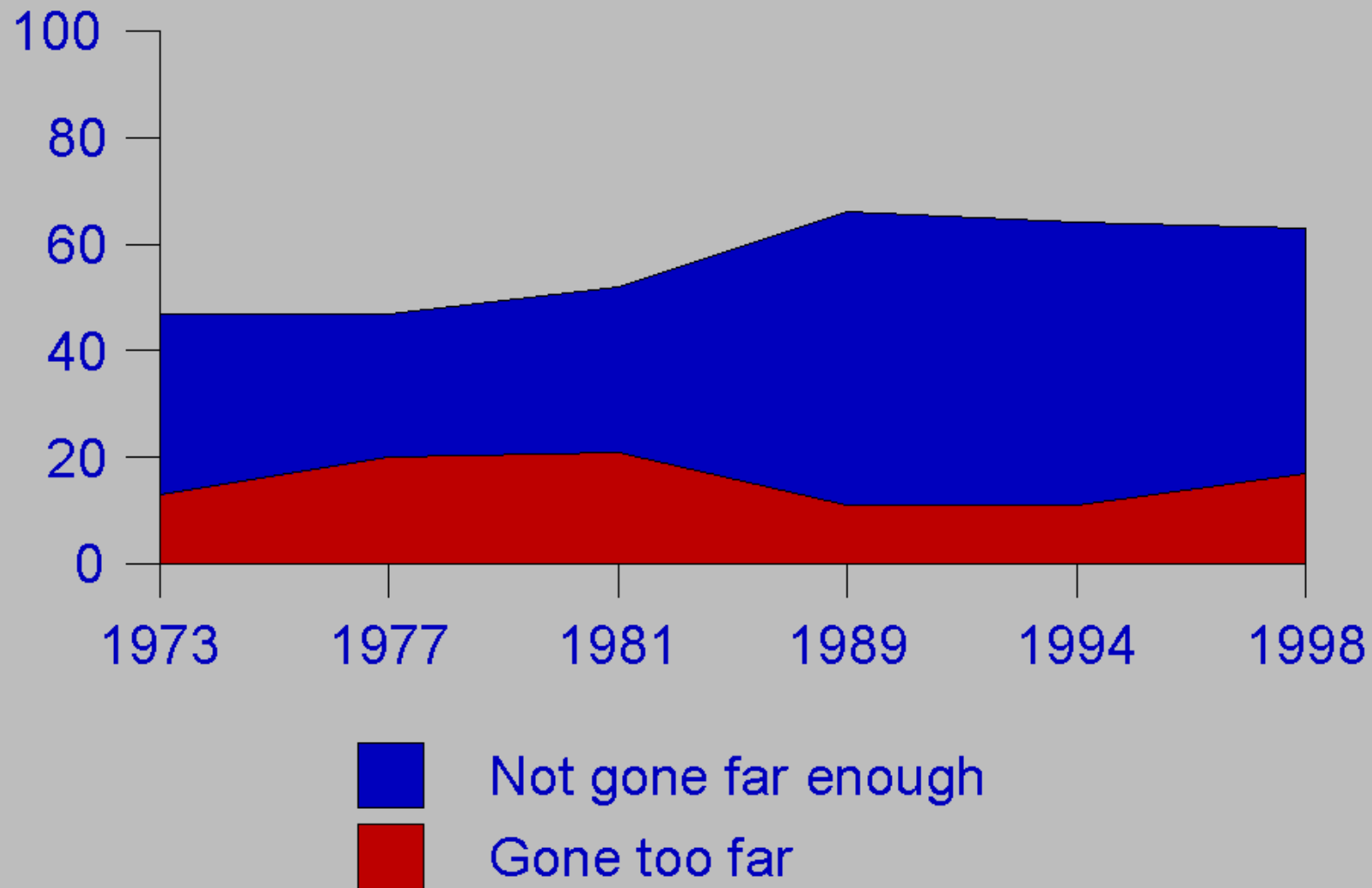
42%
Strongly Disagree

Percentages Indicating Either Environmental Protection or Economic Development are Highest Priority



Source: Gallup/CNN/USA Today Poll, April 13-14, 1999.

Environmental Protection Laws and Regulations Have:



Source: Roper Organization, 1990; Times Mirror, 1994; NEETF, 1998.

Spending on the Environment

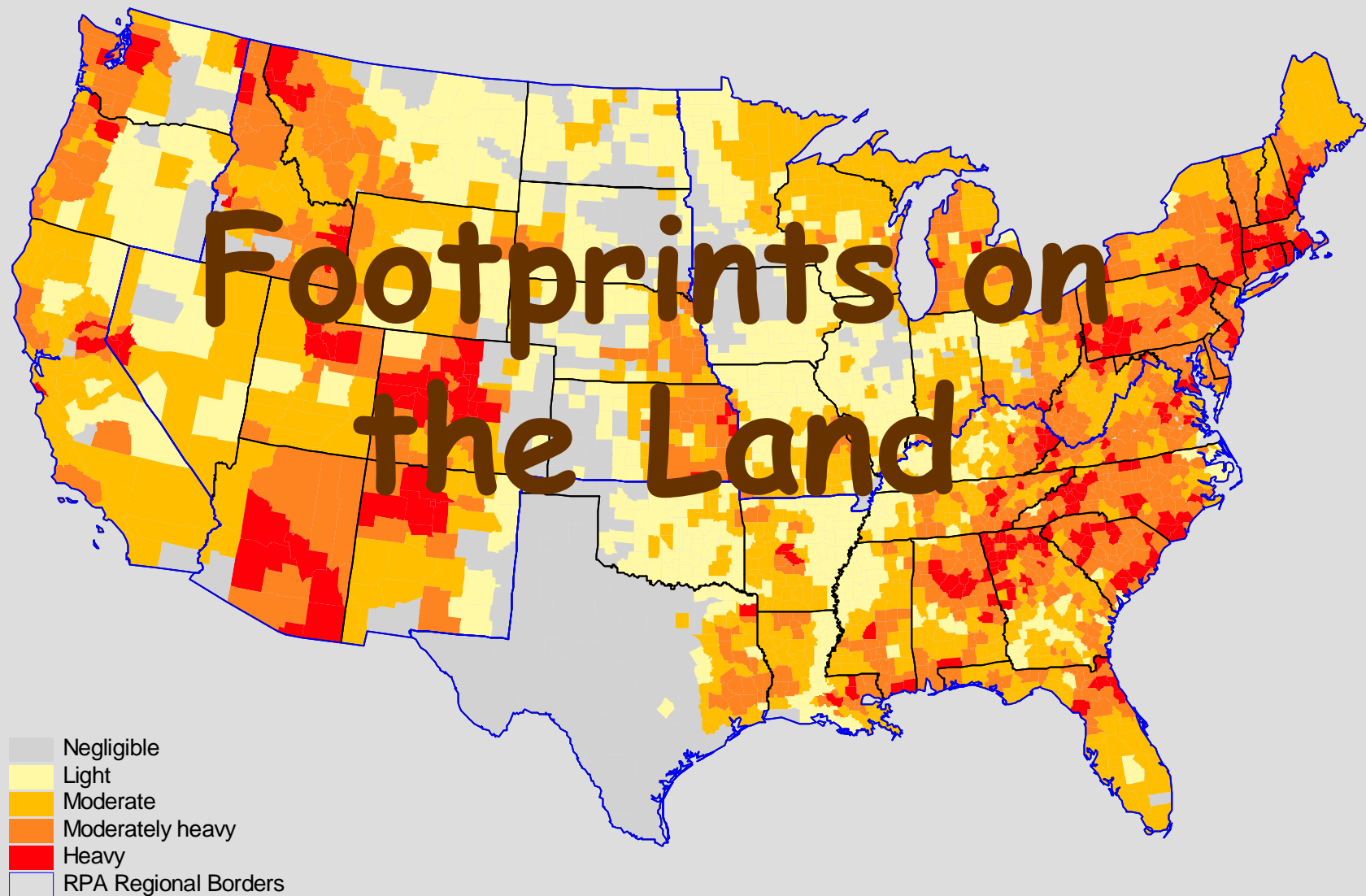
Too Much **7%**

Too Little **49%**

About Right **28%**

(Don't Know) **(15%)**

Future Forest Hotspots (2020)



The Literature says of Water

- More than 97% of water flowing through the earth's hydrological cycle sits in oceans. Only 2.5% of the earth's water is fresh.
- Of the fresh water supply, 2/3 is impounded in glaciers and ice caps.
- Less than 1% of earth's water resides in lakes, rivers, wetlands, and aquifers.
- Human demands on water have more than tripled since 1950 due to population growth, changes in diet, and higher levels of material consumption.
- Most water is allocated to agriculture (70 percent) and most agricultural water is used to grow feed for cattle in arid and semi-arid regions.

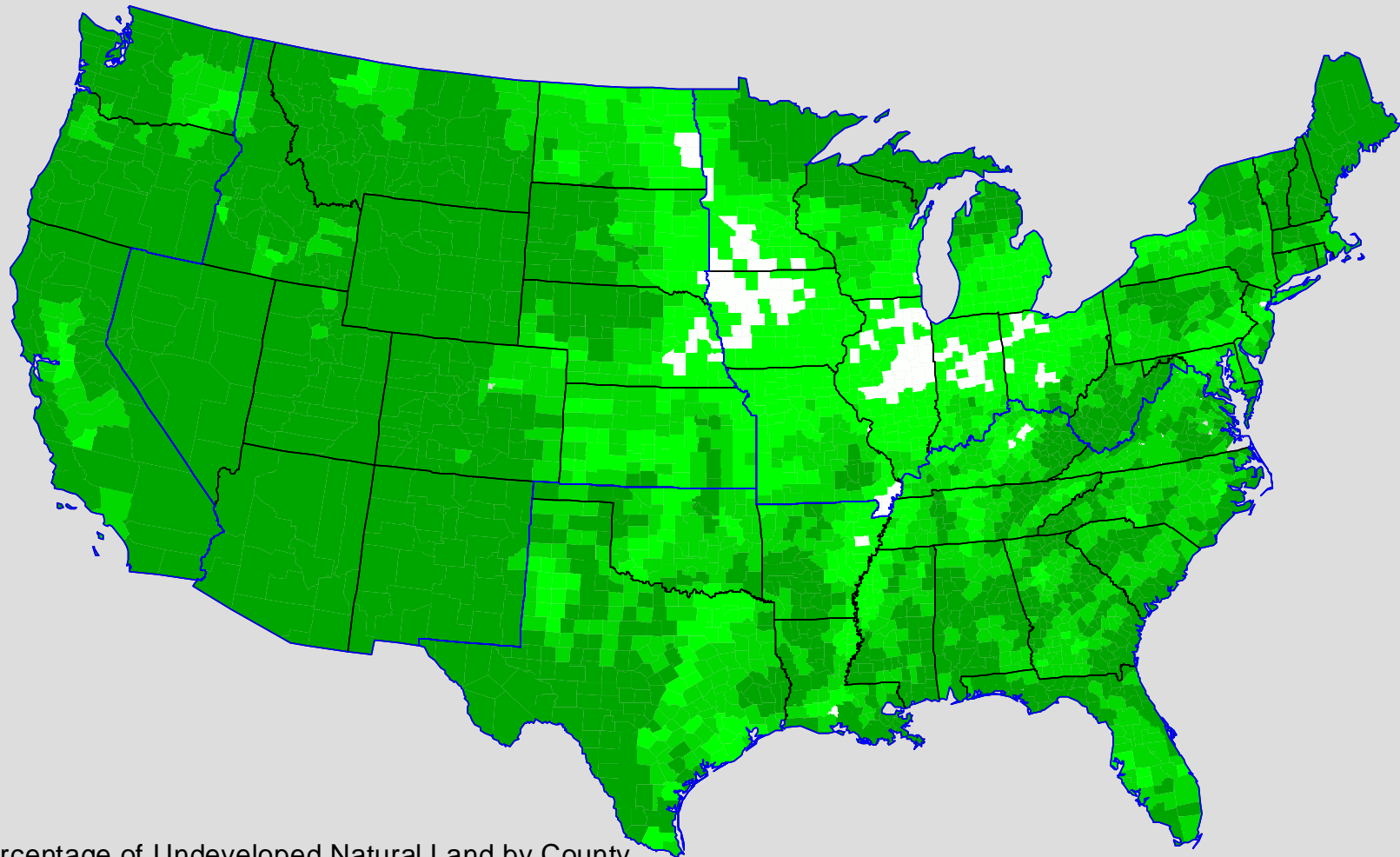
The Literature says of Wetlands

- In Pre-Columbian times, 215 million acres; now, fewer than 100 million
- The ecological functions of wetlands are valued at \$10,000 to \$30,000 per acre per year
- In the United States, 300,000 to 500,000 acres of wetlands continue to be lost every year due largely to draining and filling by humans for development
- The flooding of St. Louis in 1993 could have been averted by returning less than 1/2 of 1 percent of the upstream watershed to wetlands

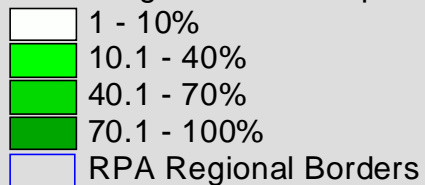
The Literature says of Forests

- North America has experienced significant reforestation following the “cutovers” of North American forests as settlers pushed south and westward
- Forests play a significant role in regulating the concentration of greenhouse gases
- Excessive carbon produced by anthropogenic activities such as fossil fuel burning and deforestation can be efficiently stored in regenerating forests
- But, although forest area has been increasing, so has human activity under that expanding canopy and forecasts now show forest losses

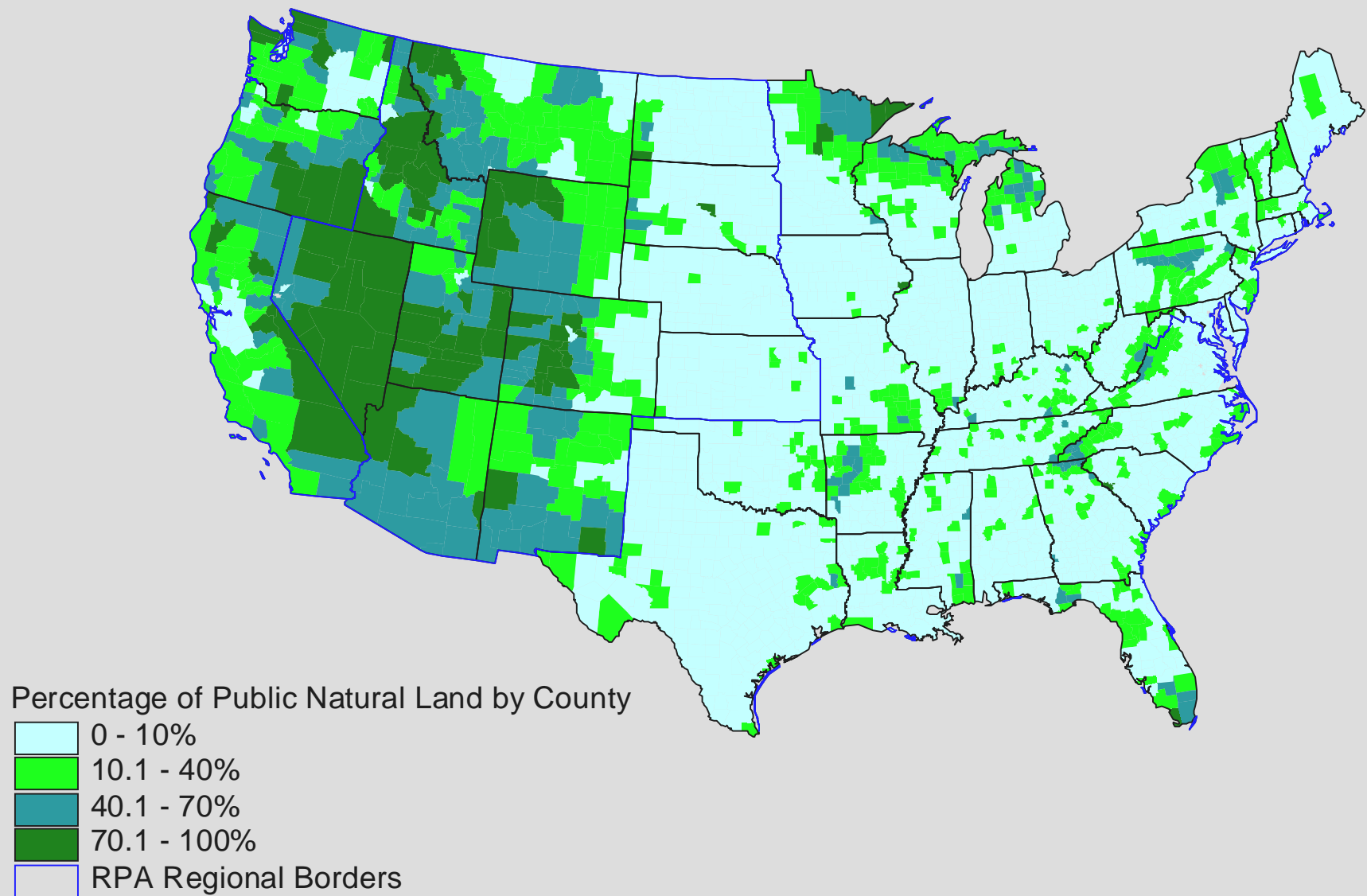
Counties with Undeveloped Natural Land



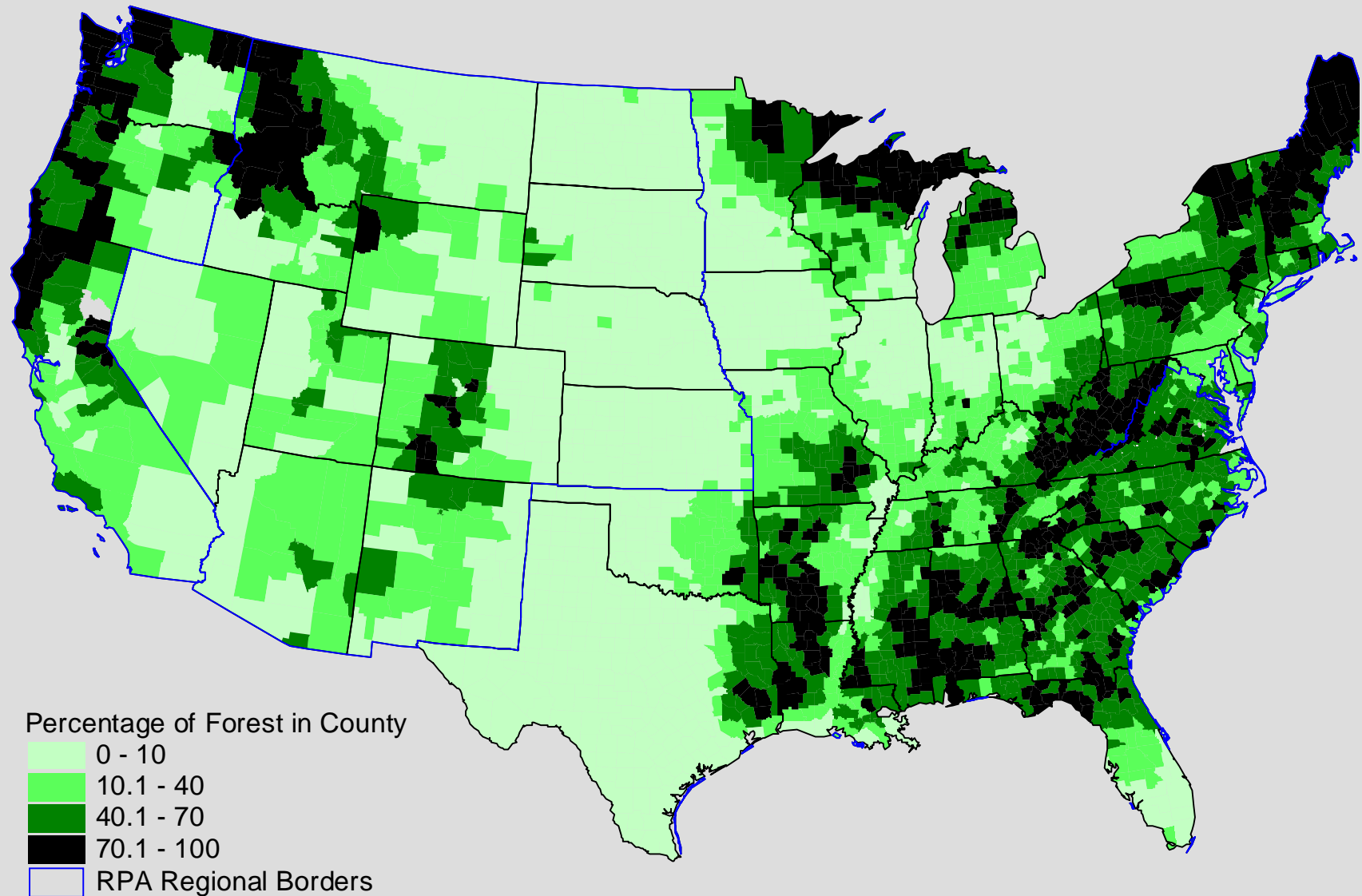
Percentage of Undeveloped Natural Land by County



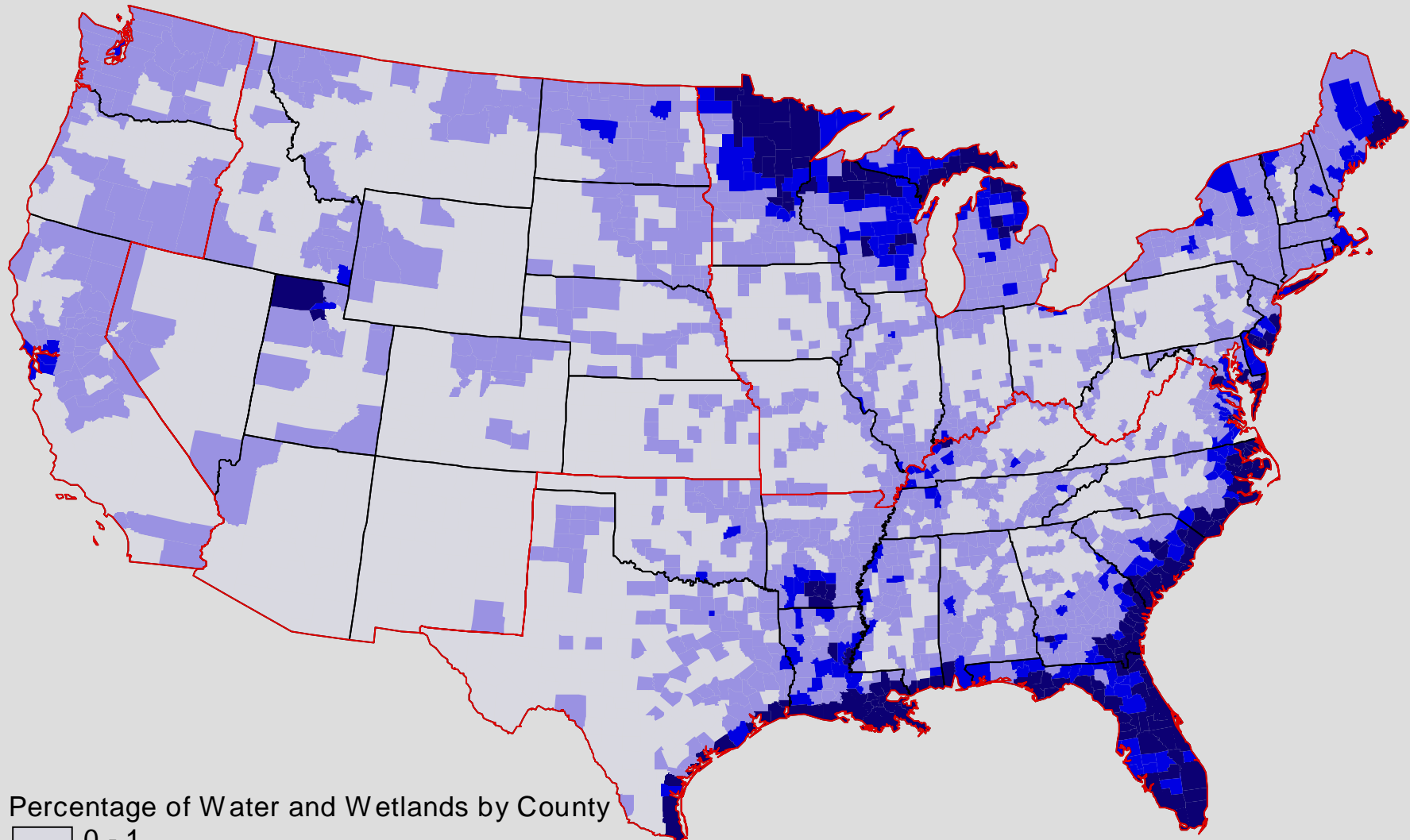
Counties with Public Natural Land



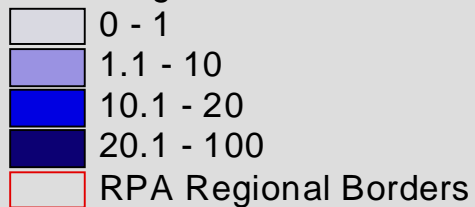
Counties with Forest Cover



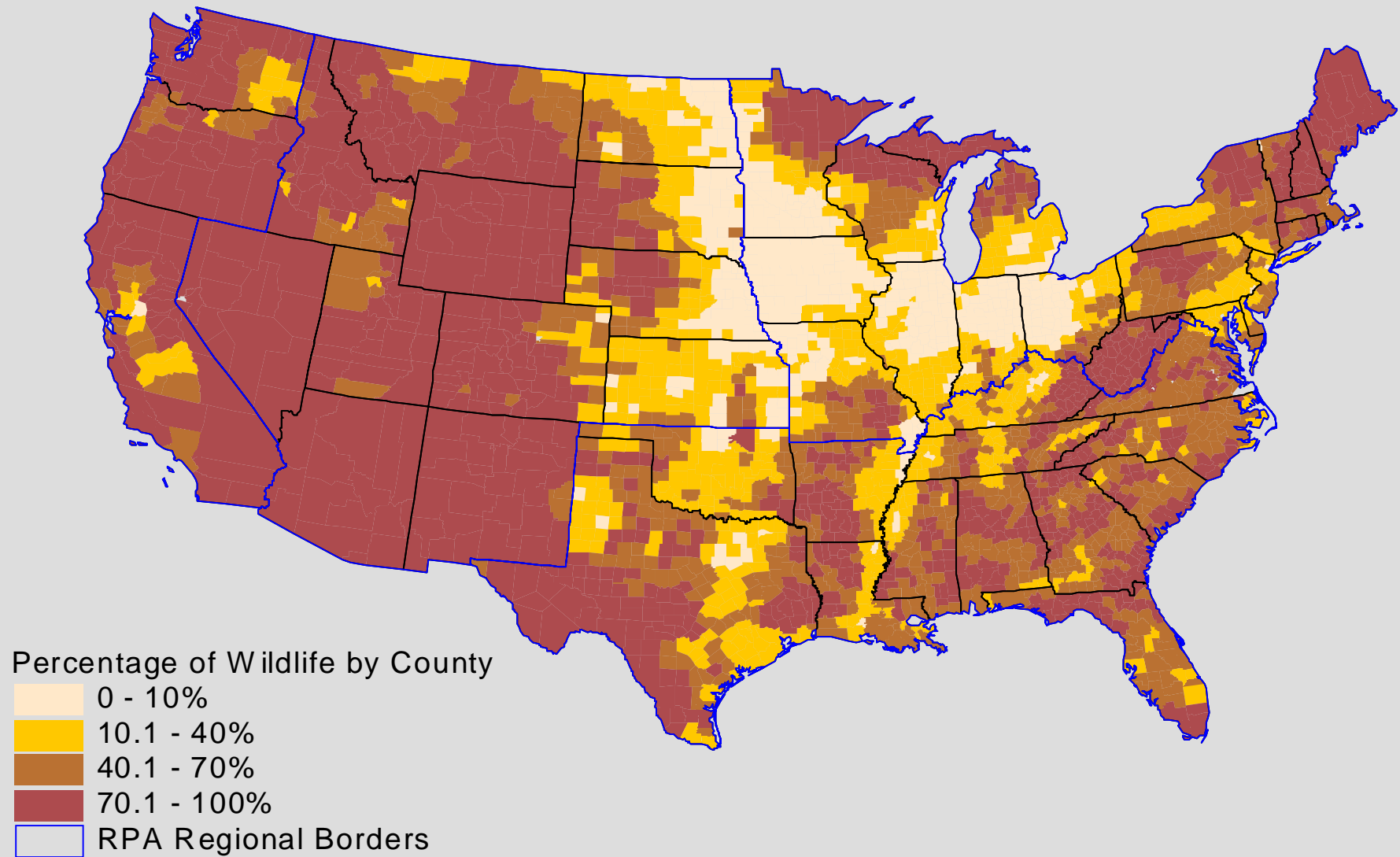
Counties with Water & Wetlands



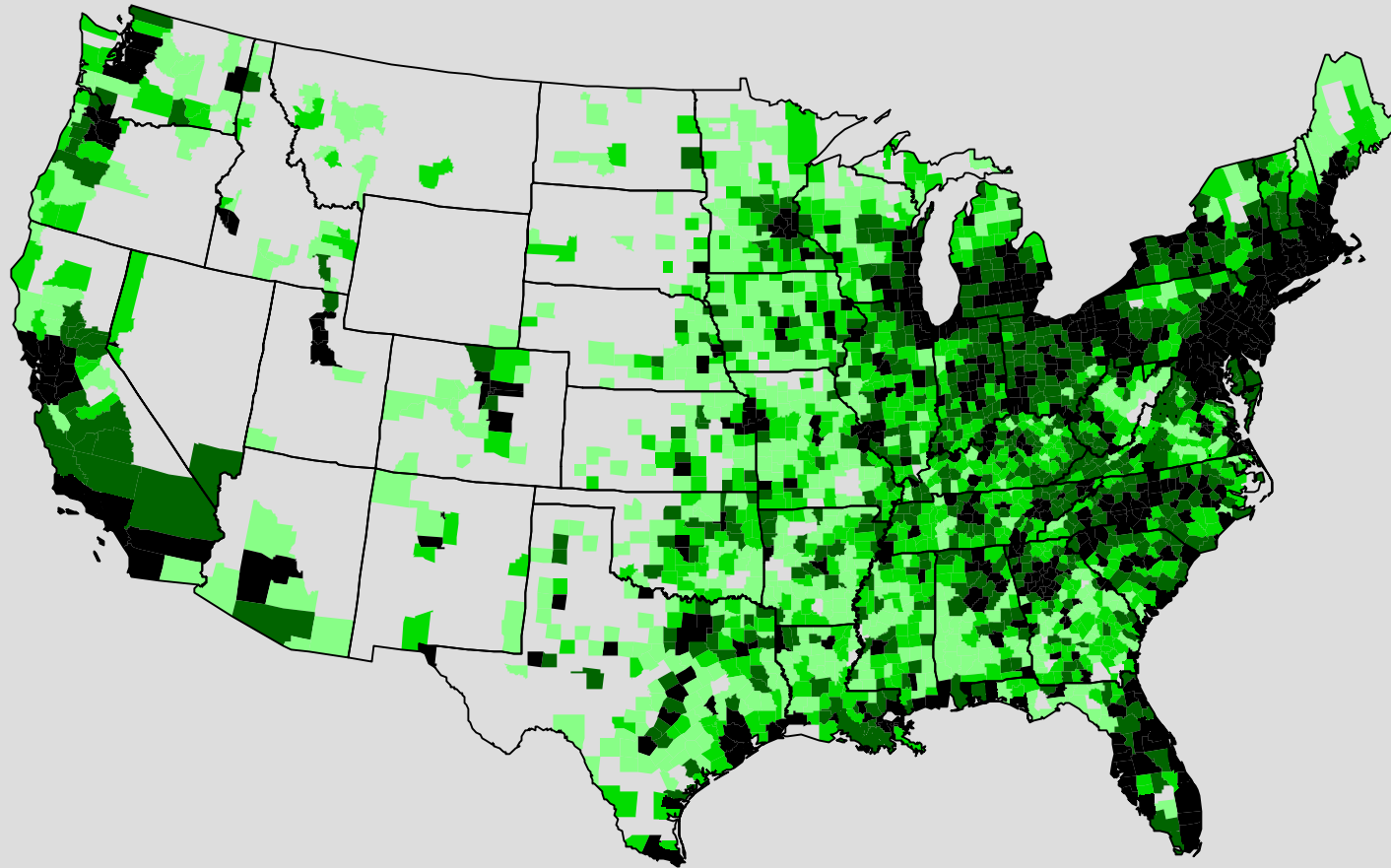
Percentage of Water and Wetlands by County



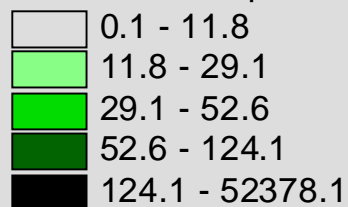
Counties with Wildlife Habitat



U.S. Population Density by 2020



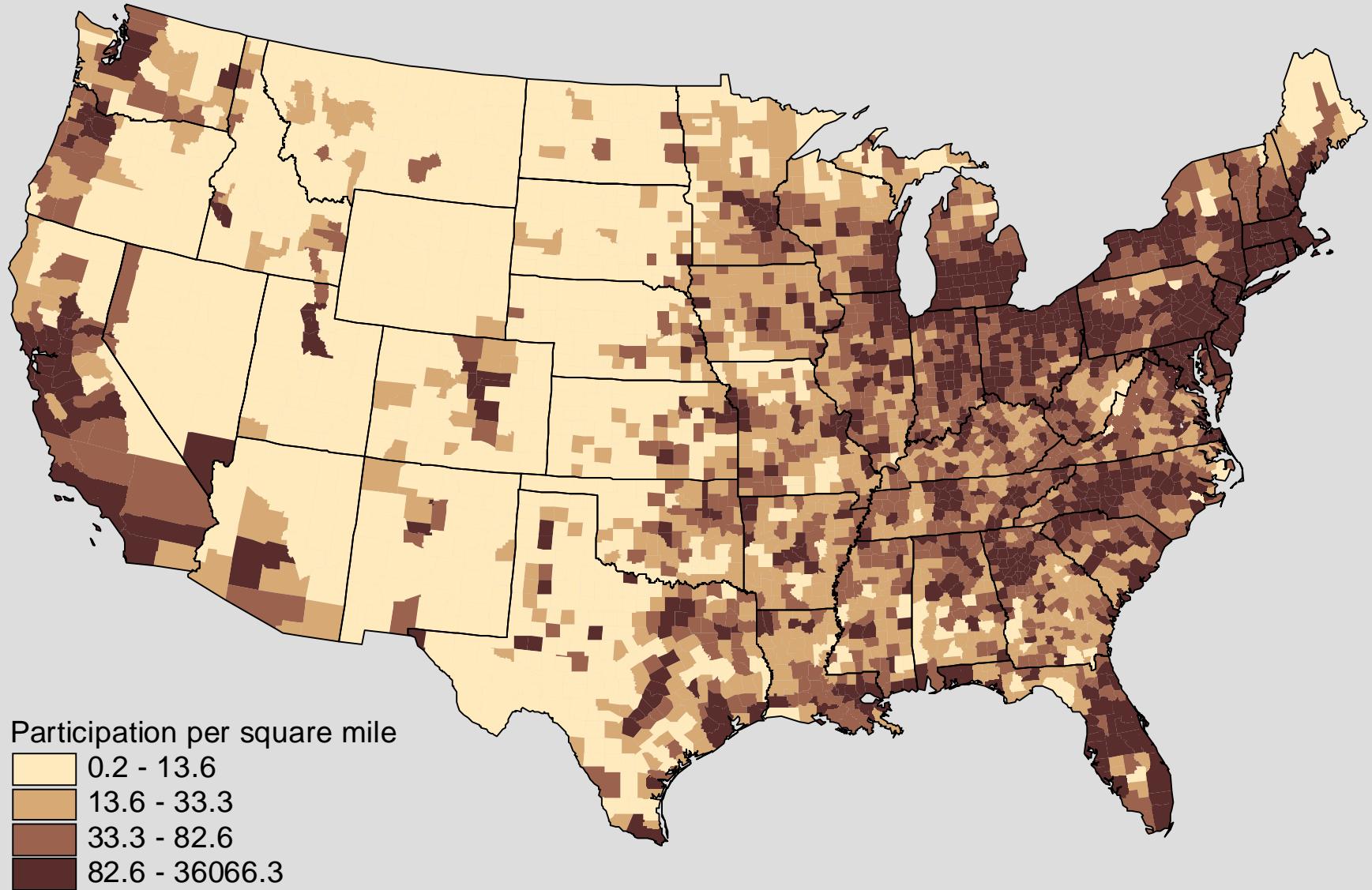
Persons Per Square Mile



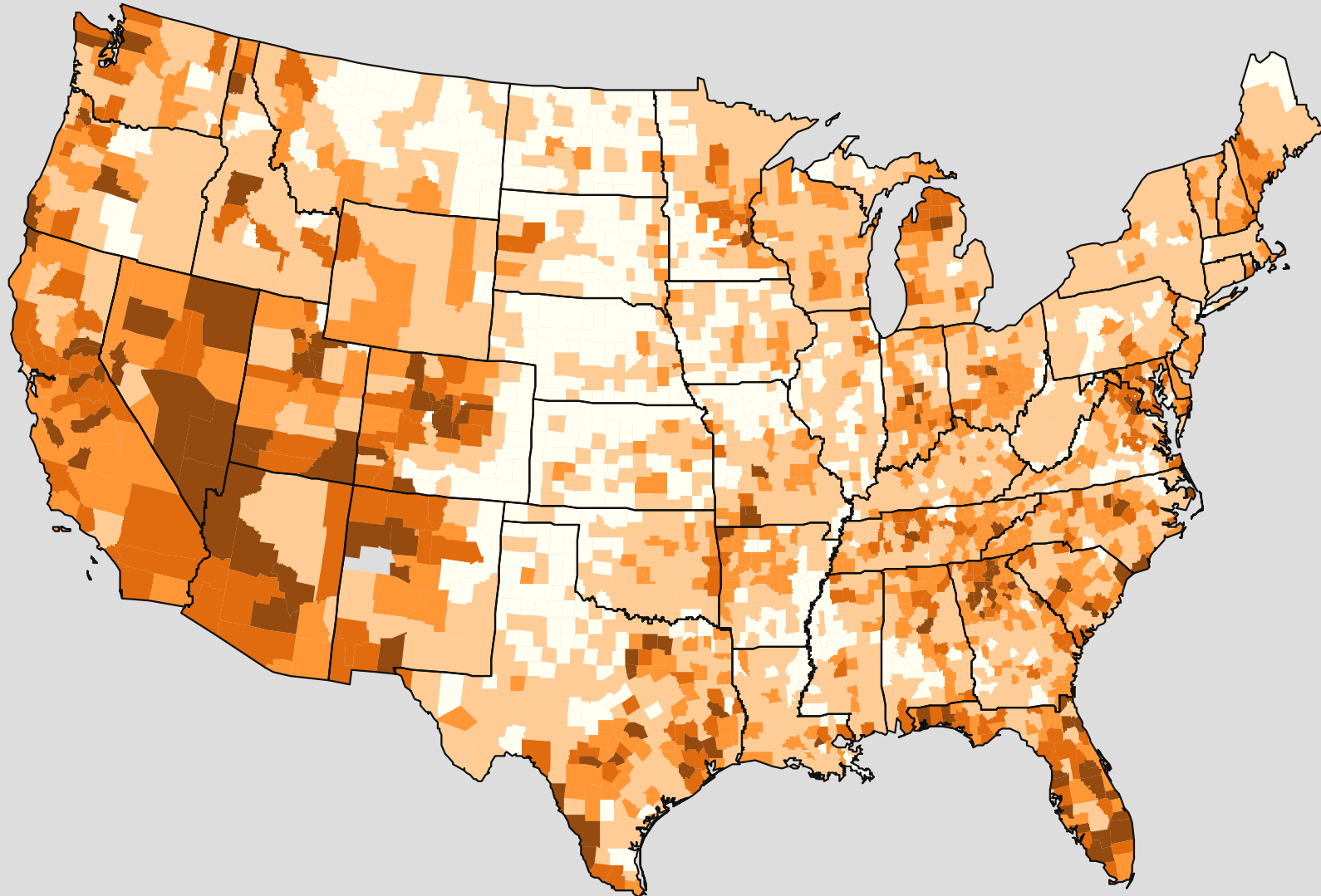
Persons Per Square Mile by
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Demand for Land-based Activities



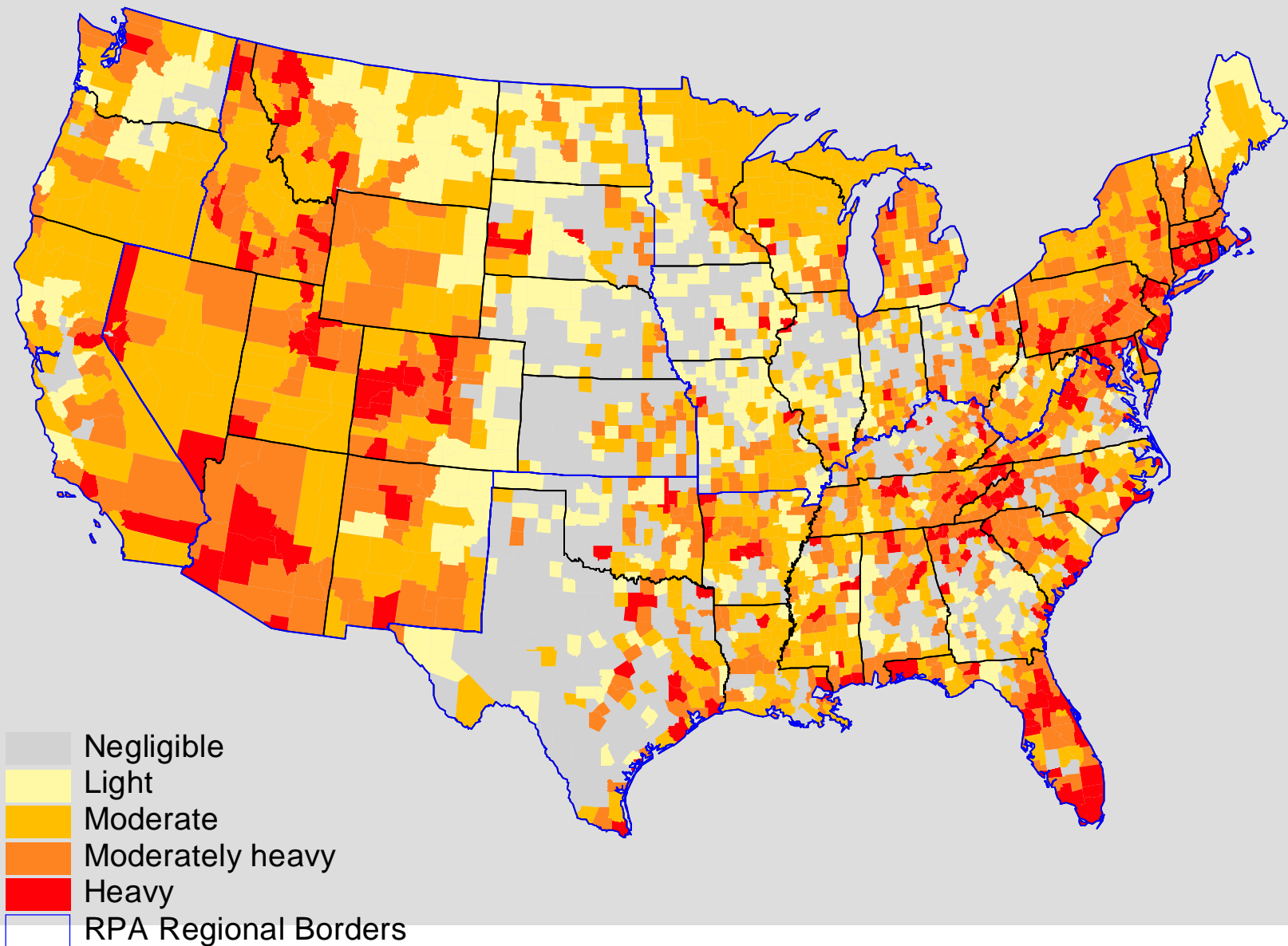
The Geography of Projected Economic Growth



Percentage Population Change

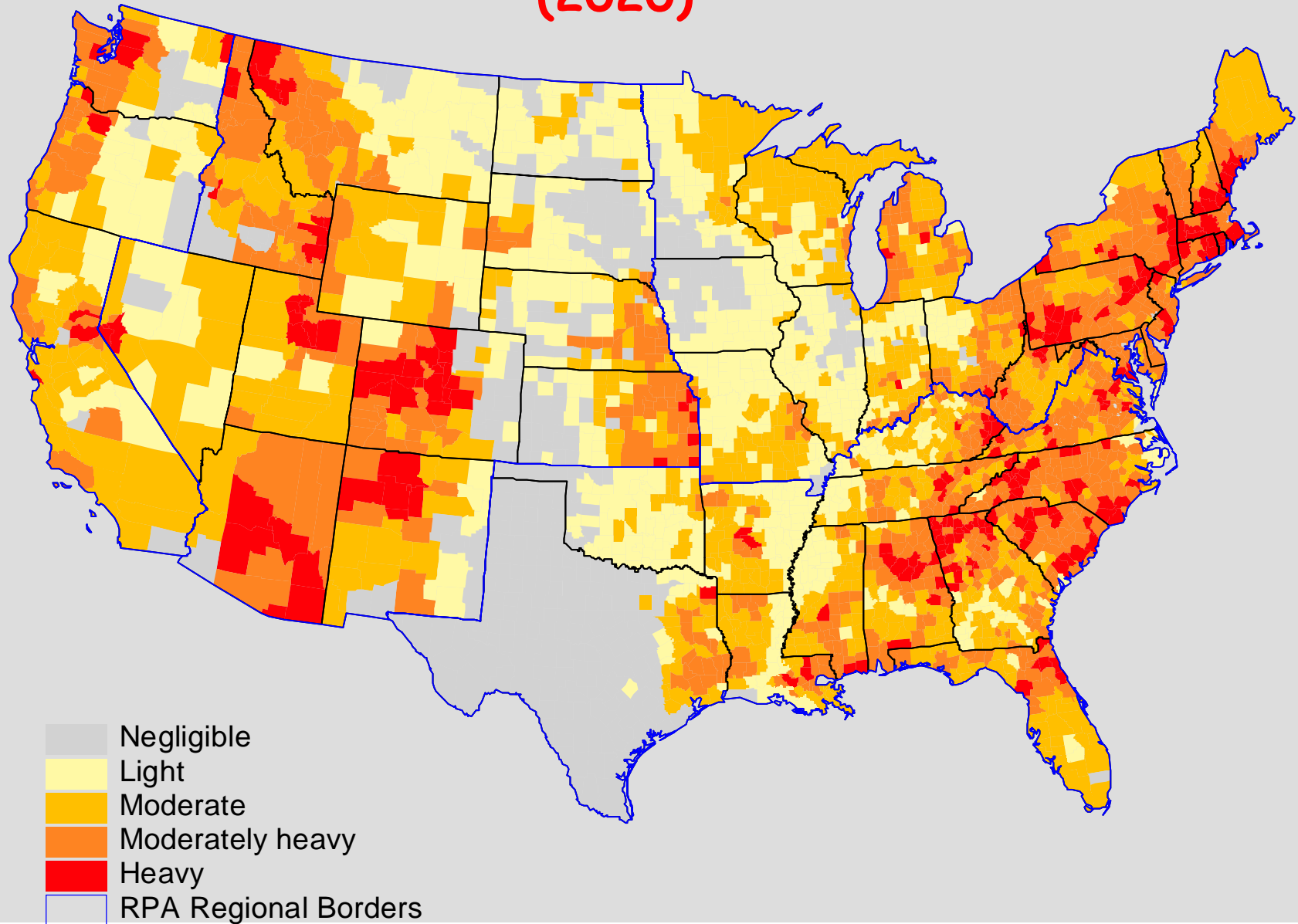
Percentage Population change by
Region and Conterminous U.S.

Future Public Natural Land Hotspots (2020)

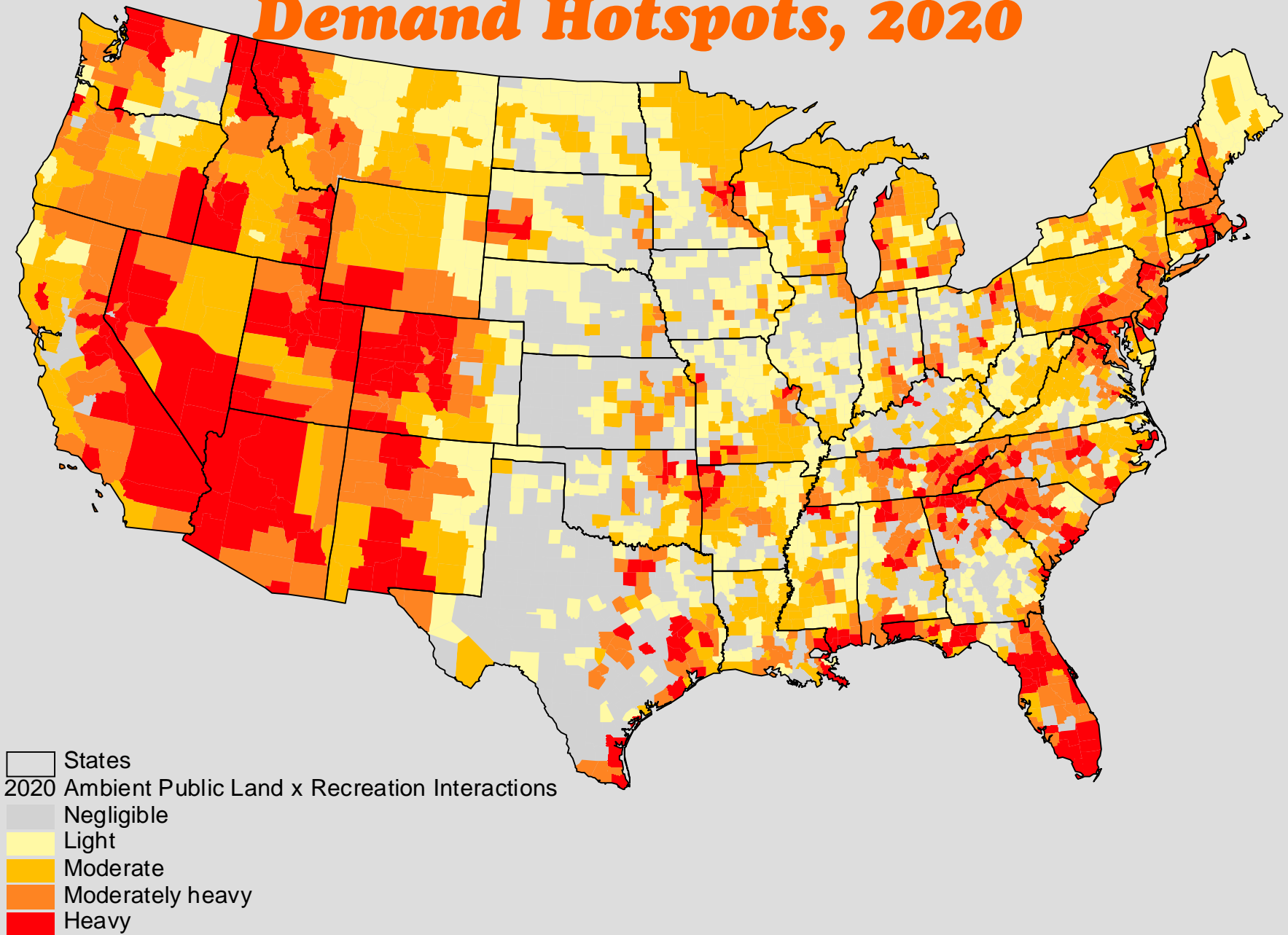


Future Forest Hotspots

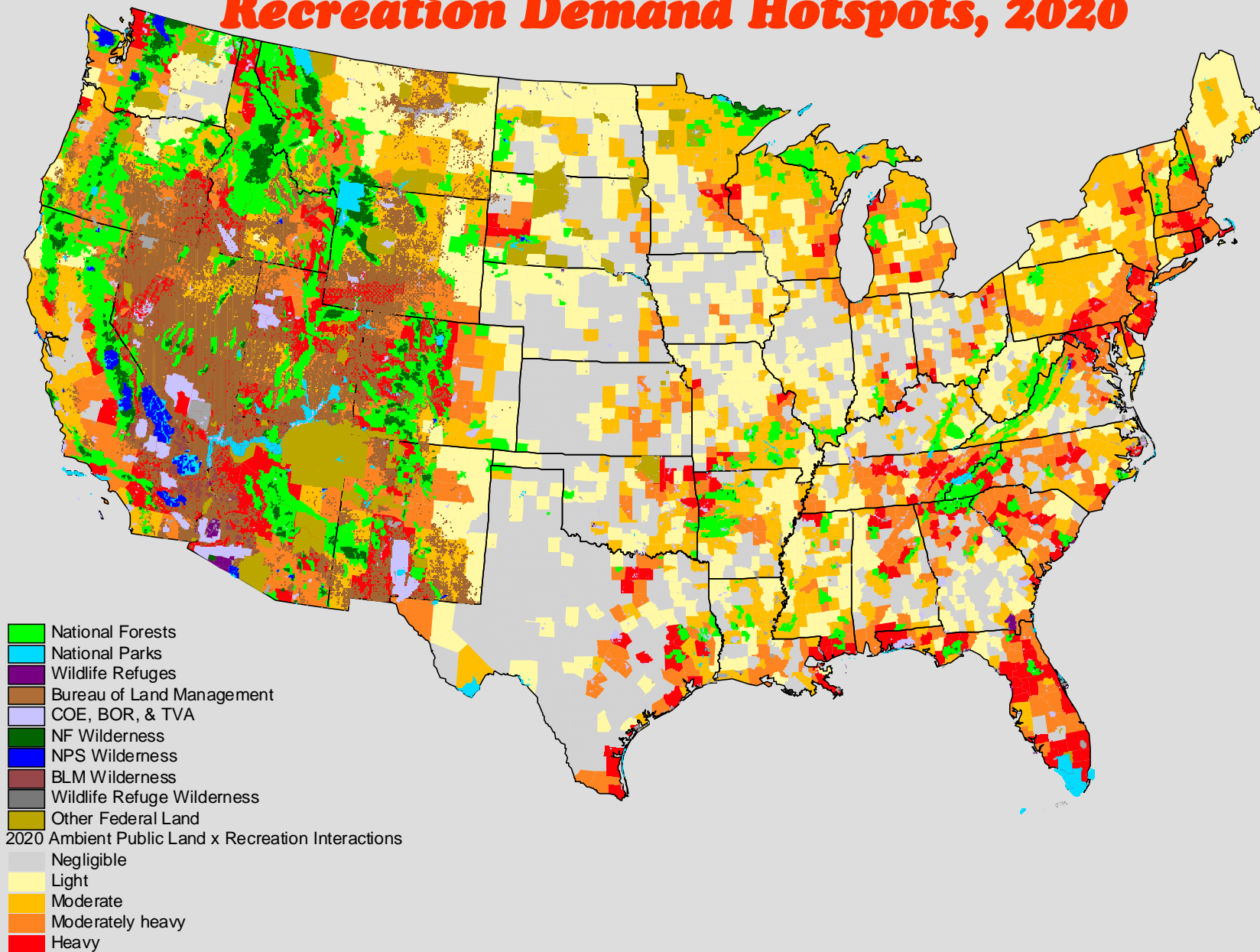
(2020)



Public Land x Recreation Demand Hotspots, 2020

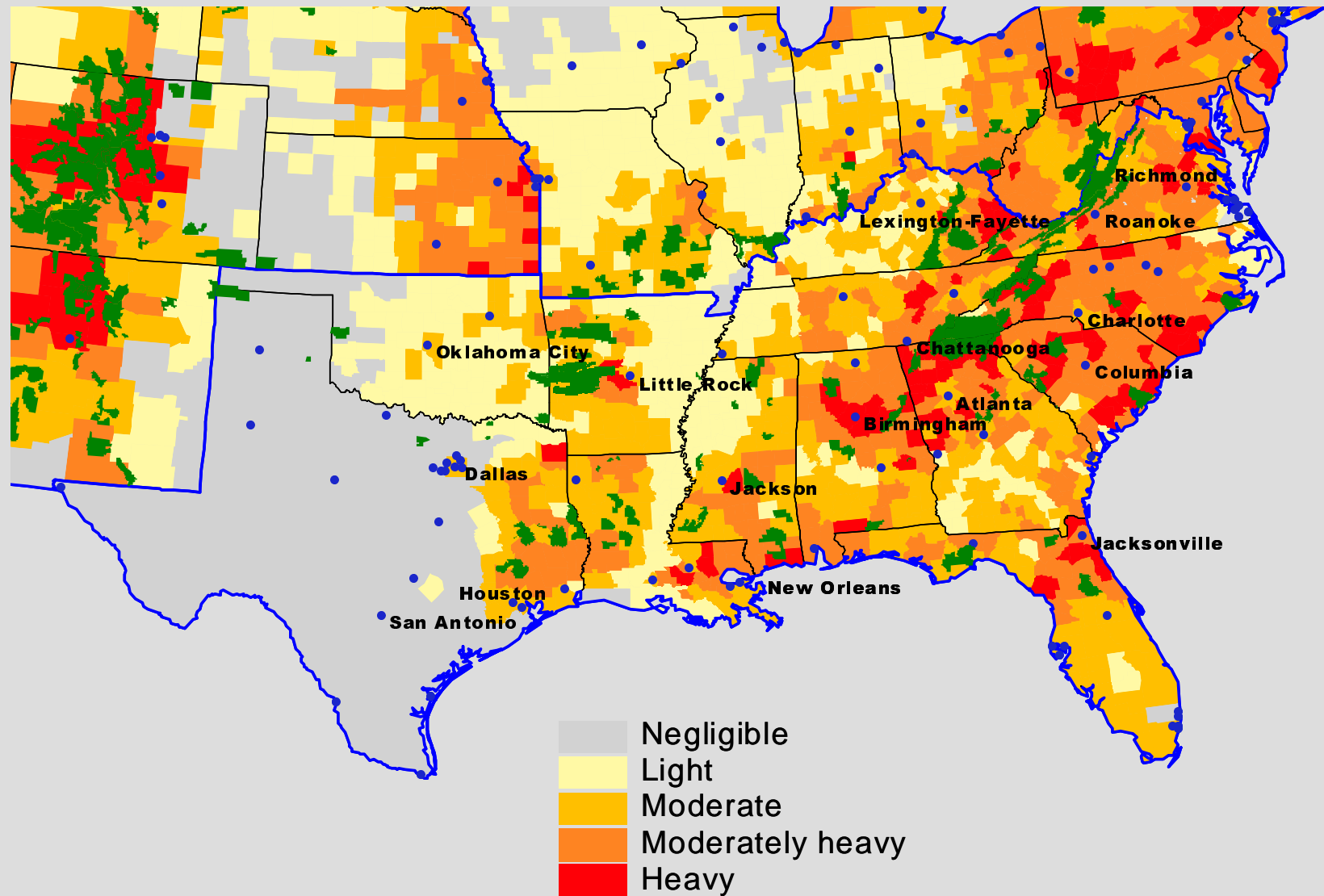


Public Lands Overlaid onto Projected Recreation Demand Hotspots, 2020

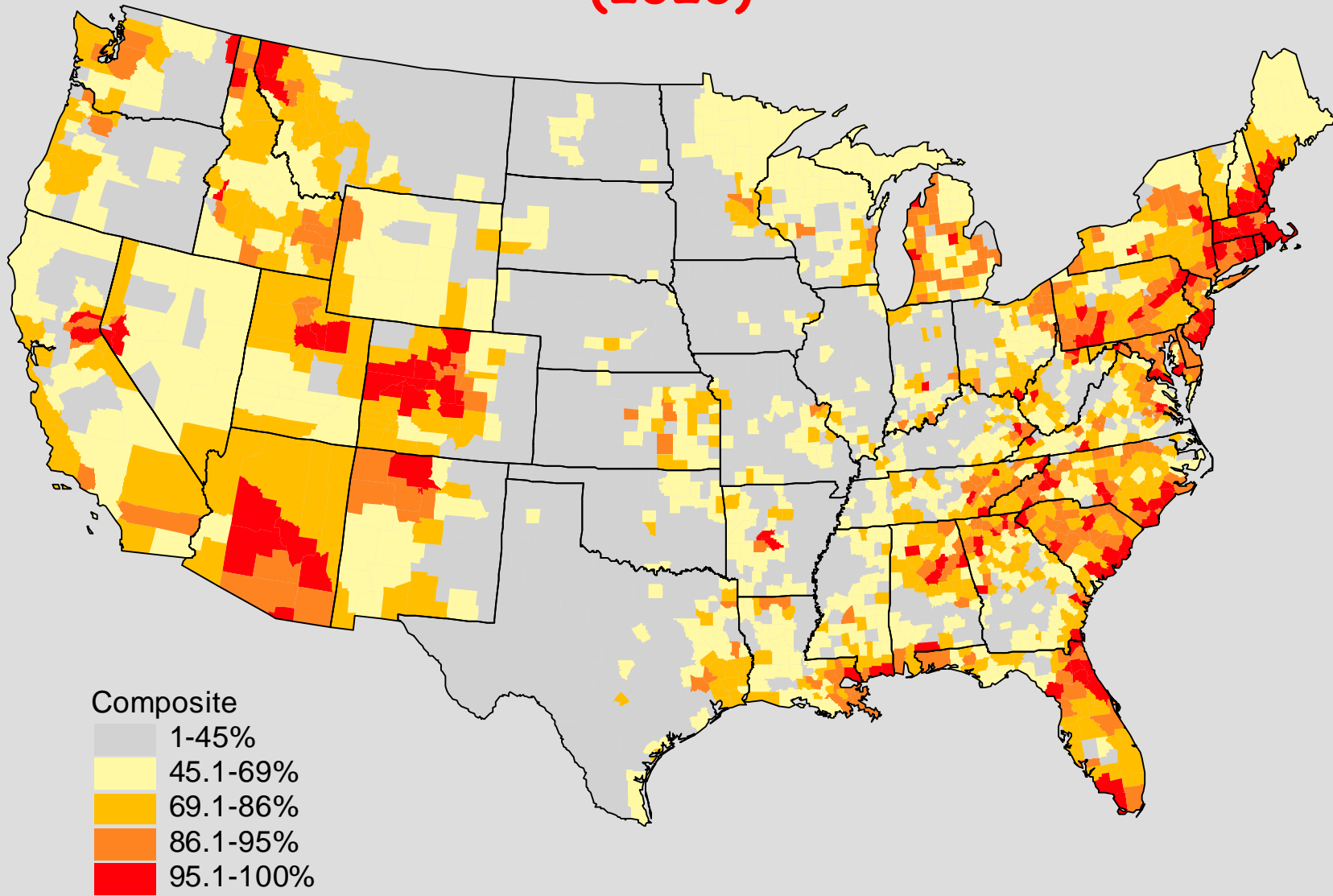


Future Forest Hotspots (2020) in the South

Ambient Population Pressures on Counties with Forests



Composite Natural Resource Hotspots (2020)



CONCLUSIONS:

1. Americans Care About the Natural Environment
2. Social Change in the Next 100 Years Will be Dramatic and Unprecedented
3. Some of the Most Rapid Growth Will Occur in Places Where We Still Have Substantial Amounts of Natural Land

The Changing American Society

- About **1 million** new immigrants per year

- More people:

1990	248 mm
2000	275 mm
2020	325 mm
2050	404 mm
2075	481 mm
2100	571 mm

- **Increasingly urban**, 81% live in cities and towns

- Getting older: Median age 35 38 (by 2020)

- Changing ethnicities by 2050:

Anglo Americans	76%	50%
African Americans	12%	15%
Hispanic Americans	9%	21%
Asian Americans	4%	11%

HOTSPOTS

- West central Michigan
- .Numerous counties in western Maine, eastern New Hampshire, and western Vermont, and others in Massachusetts, Rhode Island, and Connecticut
- .Much of New Jersey
- .The I-95 corridor from Maine to Maryland
- .Counties in the Piedmont and along the coasts of North and South Carolina
- .A number of counties in the southern Appalachians
- .Northern Alabama
- .Much of Florida
- .Gulf Coast counties in Mississippi and Louisiana
- .Southeastern Texas
- .Central Arkansas
- .Large areas in northwestern New Mexico and southern Arizona
- .Southern and central California
- .Much of Colorado, including high elevation counties, and extending into northern Utah
- .Northwestern Wyoming and southwestern Idaho
- .Northwestern Oregon through western Washington, and
- .Northeastern Washington to northwestern Montana

Acting on Americans' Concern About the Environment Must Happen Promptly

A simple view of sustainable management -- "let's not lose any of the natural lands we have remaining"

Footprints on the Land:

**An Assessment of
Demographic Trends
and the Future of
Natural Resources
in the United States**

**By
H. Ken Cordell
Christine Overdevest,
Principal Authors**



This book is an examination of the population, demographic, urban, rural, economic, leisure and recreation trends of the United States.